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CIRCULATION STUDIES

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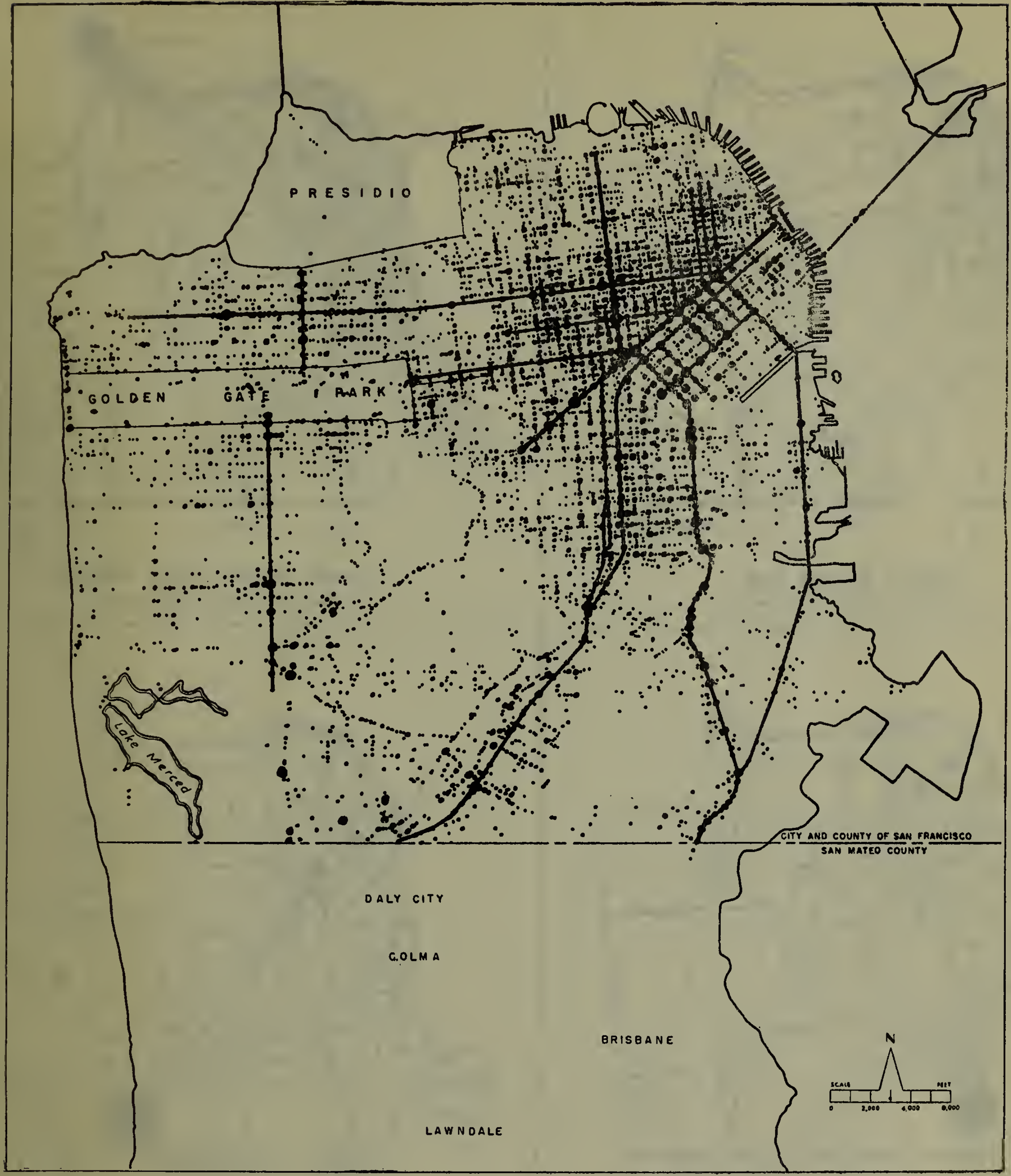

TRAFFIC ACCIDENTS

This map shows the location of 12,691 vehicular accidents which caused 101 deaths, 3651 injuries and 8939 cases of property damage in San Francisco in the year 1941. Most of these occurred at important intersections, particularly on main thoroughfares. Freeways planned without intersections would reduce this destruction.

—•—•— STREETS HAVING MOST ACCIDENTS

.•. LOCATION OF MOTOR VEHICLE ACCIDENTS
(LARGE DOTS INDICATE A NUMBER OF ACCIDENTS AT THE SAME LOCATION)

SOURCE: W.P.A. MAP -1941

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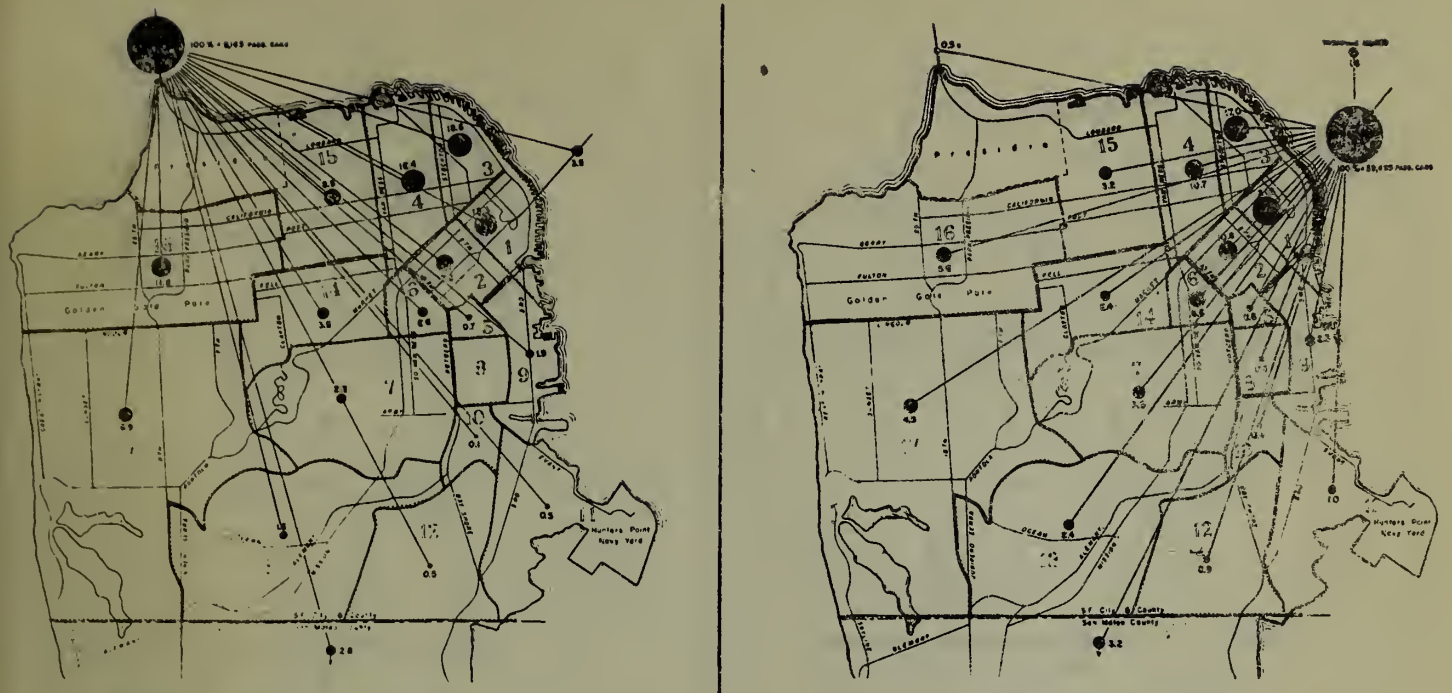
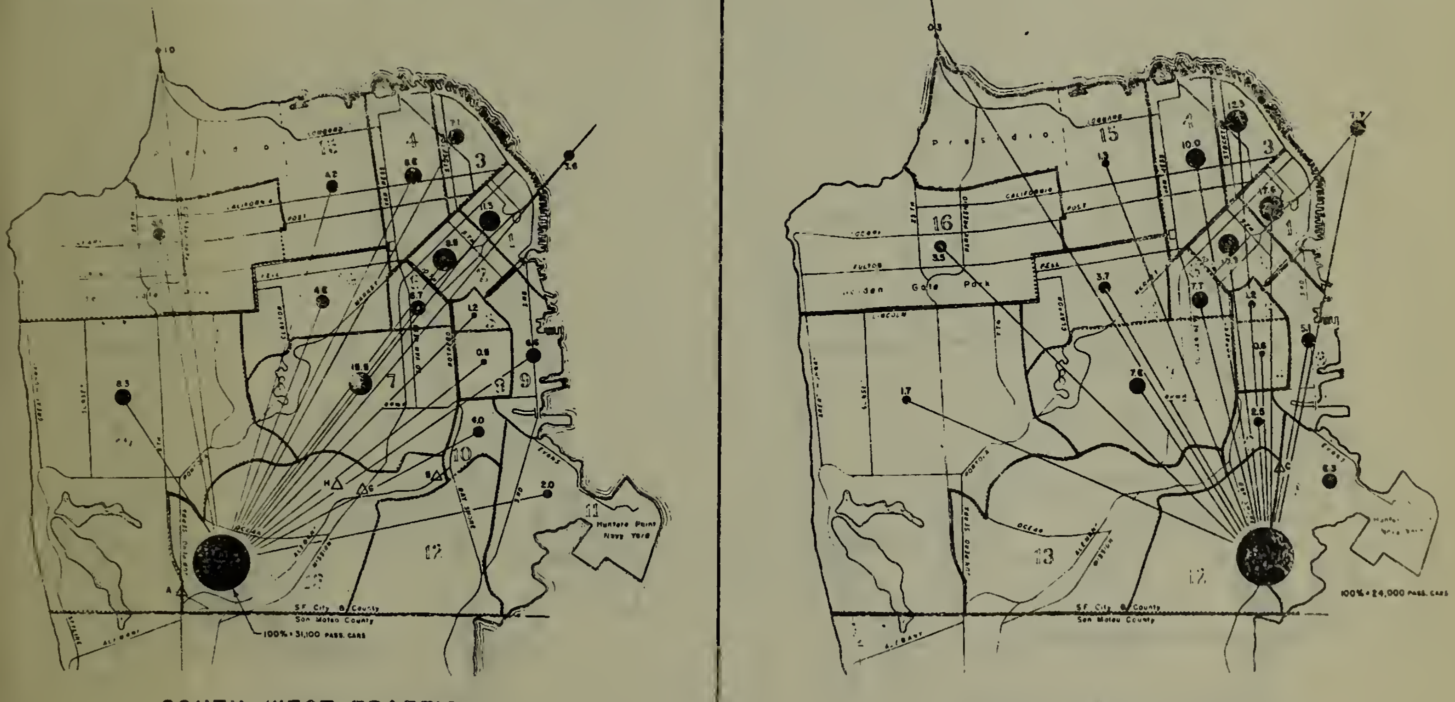
CIRCULATION STUDIES



GOLDEN GATE BRIDGE TRAFFIC
TOTAL GATEWAY TRAFFIC = 8,165 CARS

BAY BRIDGE TRAFFIC
TOTAL GATEWAY TRAFFIC = 39,455 CARS



SOUTH-WEST TRAFFIC
TOTAL GATEWAY TRAFFIC = 31,100 CARS

UNTS WERE MADE AT THE FOLLOWING STATIONS: JUNIPERO SERRA BLVD. AT 19TH AVE.(A) – MISSION ST. AT MURRAY (G) –
EMANY BLVD. WEST OF SAN BRUNO AVE.(B) – BERNAL AVE. NORTH OF MONTEREY AVE. (H)

SOUTH-EAST TRAFFIC
TOTAL GATEWAY TRAFFIC = 24,000 CARS

COUNTS WERE MADE AT THE FOLLOWING STATIONS: BAYSHORE BLVD. AT SILVER AVE.(C) – THIRD ST. E. OF BAYSHORE BLVD.(D)

ORIGIN AND DESTINATION OF PASSENGER CARS

SHOWING PERCENTAGE OF TRAFFIC TO AND FROM THE FOUR GATEWAYS OF THE CITY
24-HOUR TRAFFIC FLOW, NOVEMBER 1943

——ZONE BOUNDARIES

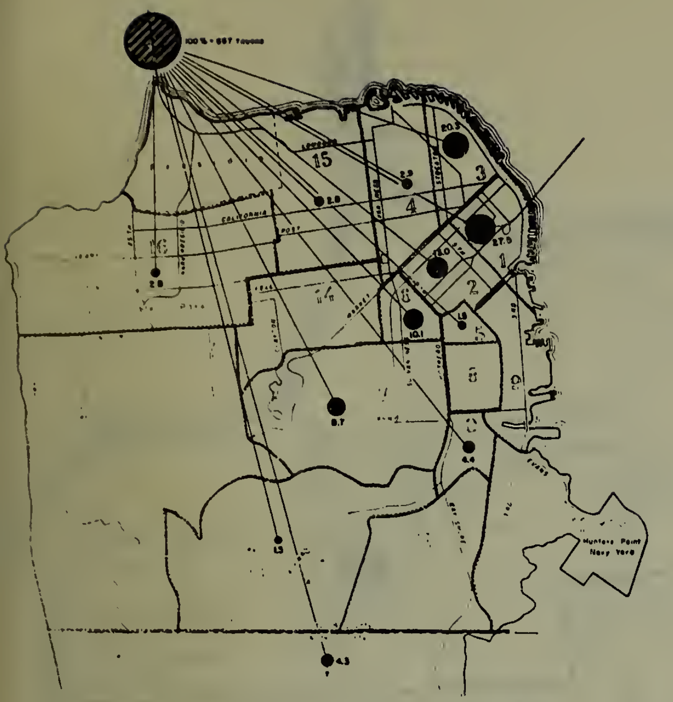
12 ZONE NUMBERS

0.1% ● PERCENTAGE OF TOTAL GATEWAY TRAFFIC

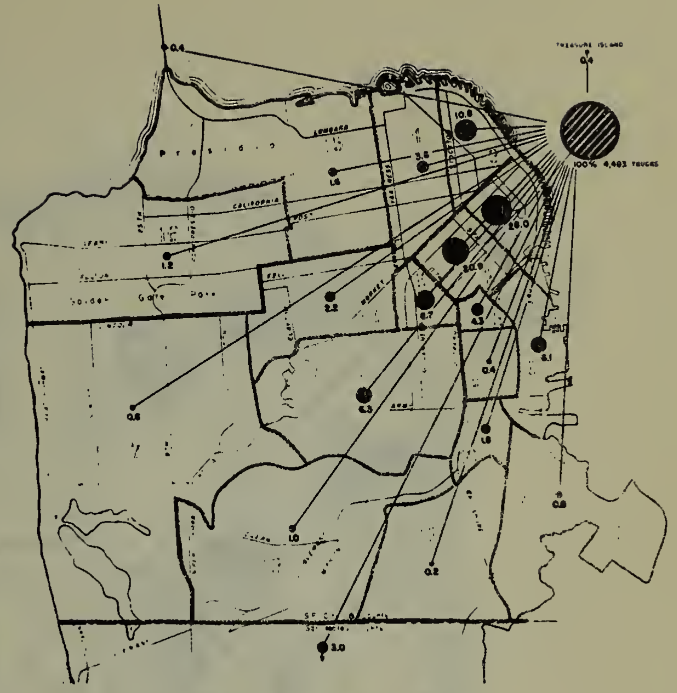
SOURCE: S.F. ORIGIN AND DESTINATION STUDY (STATE DIVISION OF HIGHWAYS) NOV. 1943

SAN FRANCISCO CITY PLANNING COMMISSION

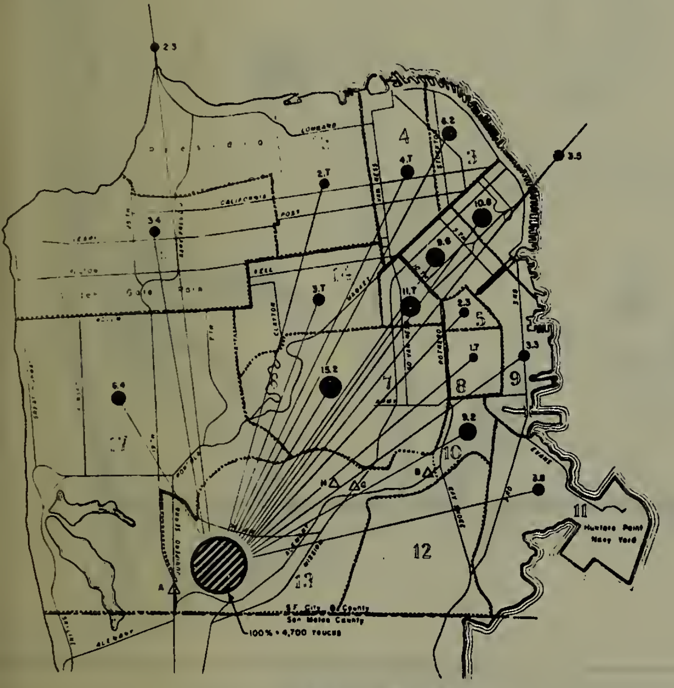
CIRCULATION STUDIES



GOLDEN GATE BRIDGE TRAFFIC
TOTAL GATEWAY TRAFFIC = 857 TRUCKS

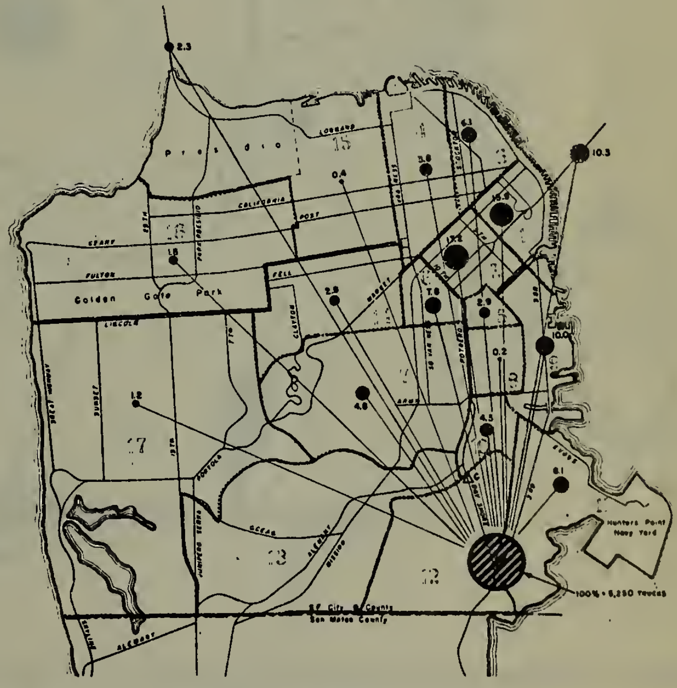


BAY BRIDGE TRAFFIC
TOTAL GATEWAY TRAFFIC = 4,483 TRUCKS



SOUTH-WEST TRAFFIC
TOTAL GATEWAY TRAFFIC = 4,700 TRUCKS

OUNTS WERE MADE AT THE FOLLOWING STATIONS: JUNIPERO SERRA BLVD. AT 19TH AVE. (A) — MISSION ST. AT MURRAY (B) —
LEMANY BLVD. WEST OF SAN BRUNO AVE. (G) — BERRAL AVE. NORTH OF MONTEREY AVE. (N)



SOUTH-EAST TRAFFIC
TOTAL GATEWAY TRAFFIC = 5,250 TRUCKS

COUNTS WERE MADE AT THE FOLLOWING STATIONS: BAYSHORE BLVD. AT SILVER AVE (C) — THIRD ST E. OF BAYSHORE BLVD (D)

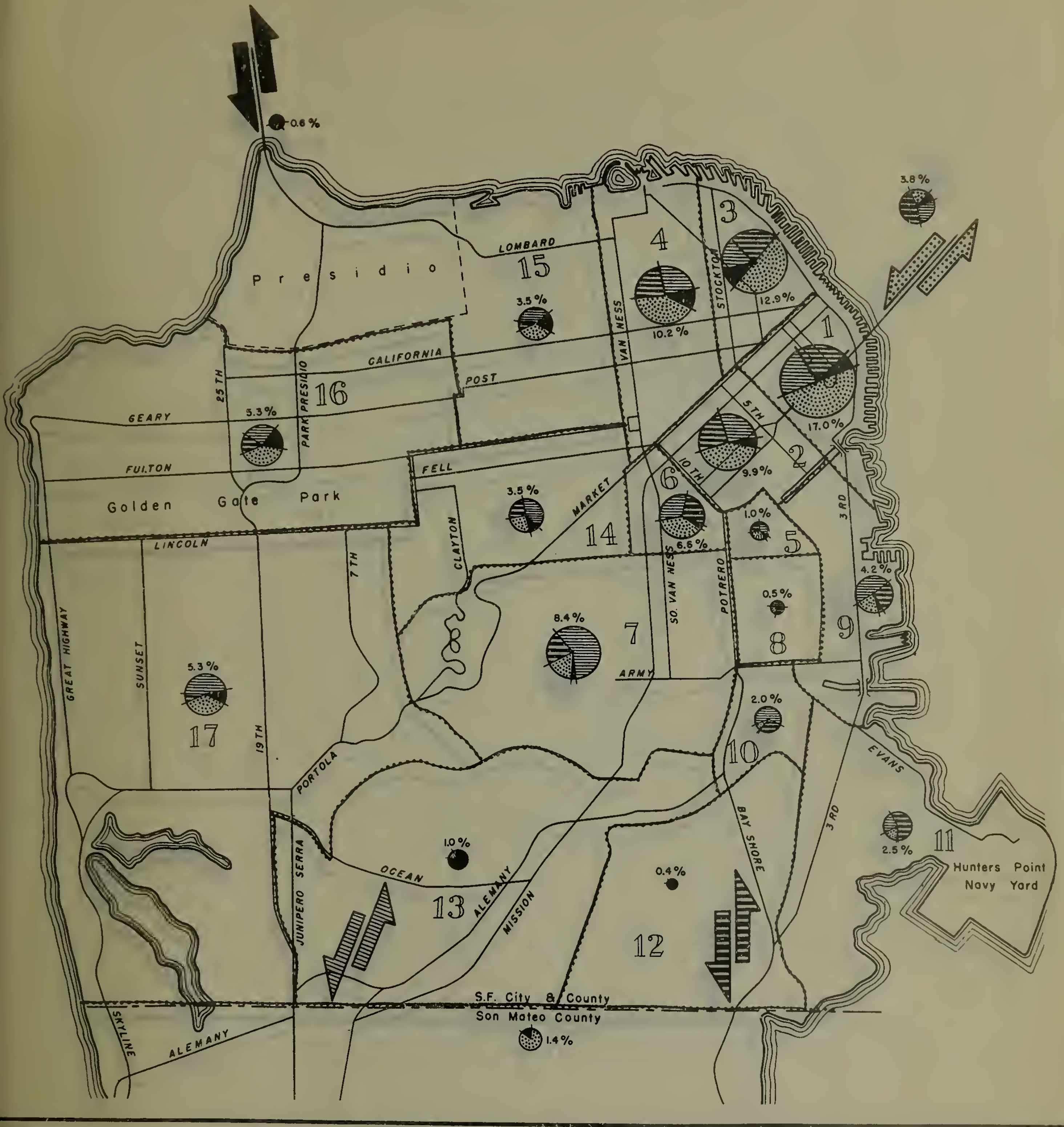
ORIGIN AND DESTINATION OF TRUCKS

SHOWING PERCENTAGE OF TRAFFIC TO AND FROM THE FOUR GATEWAYS OF THE CITY
24-HOUR TRAFFIC FLOW, NOVEMBER 1943

- ZONE BOUNDARIES
- 12 ZONE NUMBERS
- 6.1% ● PERCENTAGE OF TOTAL GATEWAY TRAFFIC

SOURCE: S.F. ORIGIN AND DESTINATION STUDY (STATE DIVISION OF HIGHWAYS) NOV. 1943

AN FRANCISCO CITY PLANNING COMMISSION



ORIGIN AND DESTINATION OF PASSENGER CARS

SHOWING IN EACH ZONE THE PERCENTAGE OF TRAFFIC TO AND FROM THE FOUR GATEWAYS OF THE CITY

24-HOUR TRAFFIC FLOW, NOVEMBER 1943

GOLDEN GATE BRIDGE TRAFFIC = 8,165 PASS. CARS - 8.0%

BAY BRIDGE TRAFFIC = 39,495 PASS. CARS - 38.4%

SOUTH-EAST TRAFFIC = 24,000 PASS. CARS - 23.4%

SOUTH-WEST TRAFFIC = 31,100 PASS. CARS - 30.2%

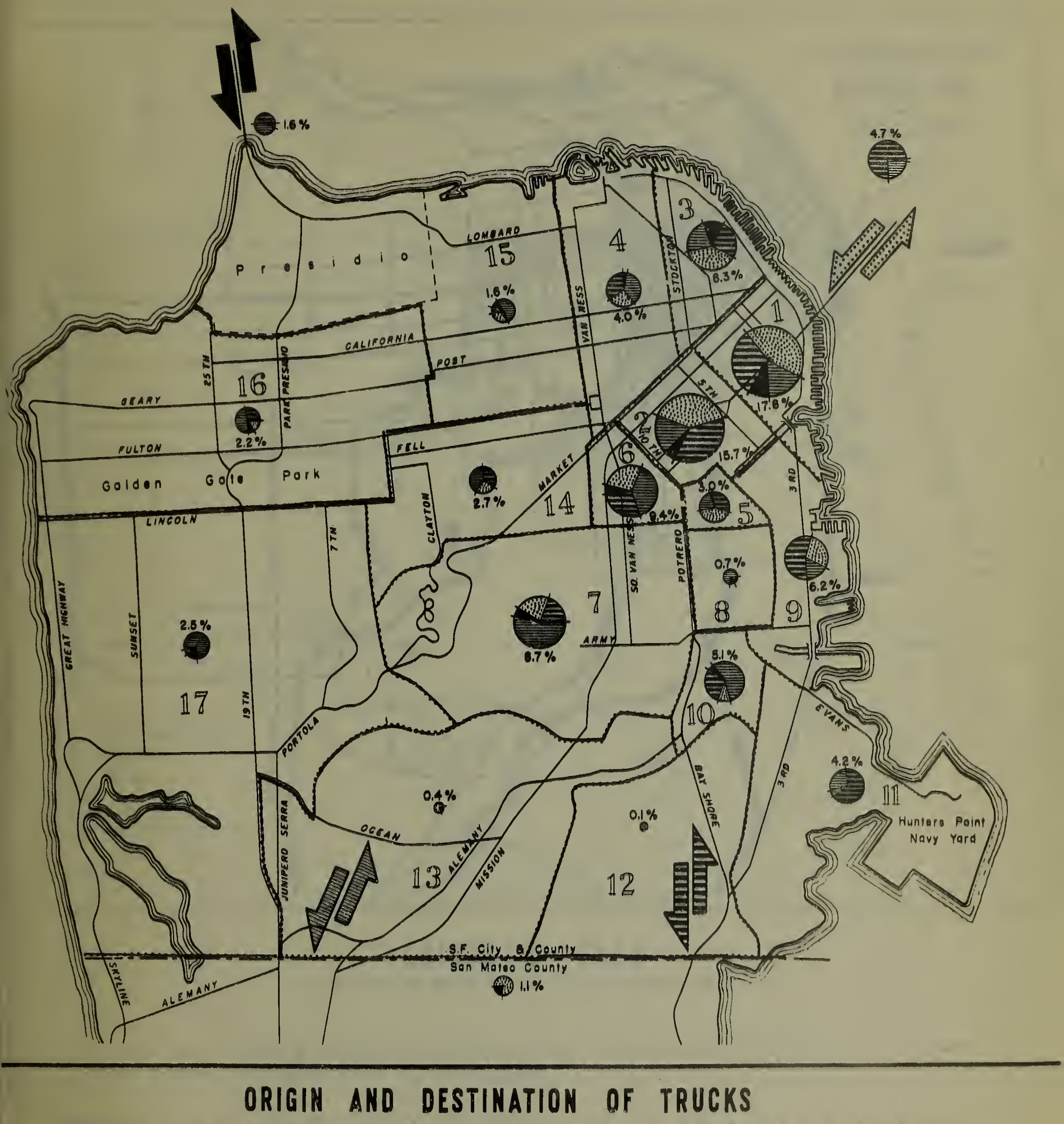
TOTAL TRAFFIC - FOUR GATEWAYS = 102,760 PASS. CARS - 100%

ZONE BOUNDARIES

12 ZONE NUMBERS

6.1% PERCENTAGE OF TRAFFIC FROM ALL GATEWAYS

SOURCE: S.F. ORIGIN AND DESTINATION STUDY (STATE DIVISION OF HIGHWAYS) NOV. 1943



ORIGIN AND DESTINATION OF TRUCKS

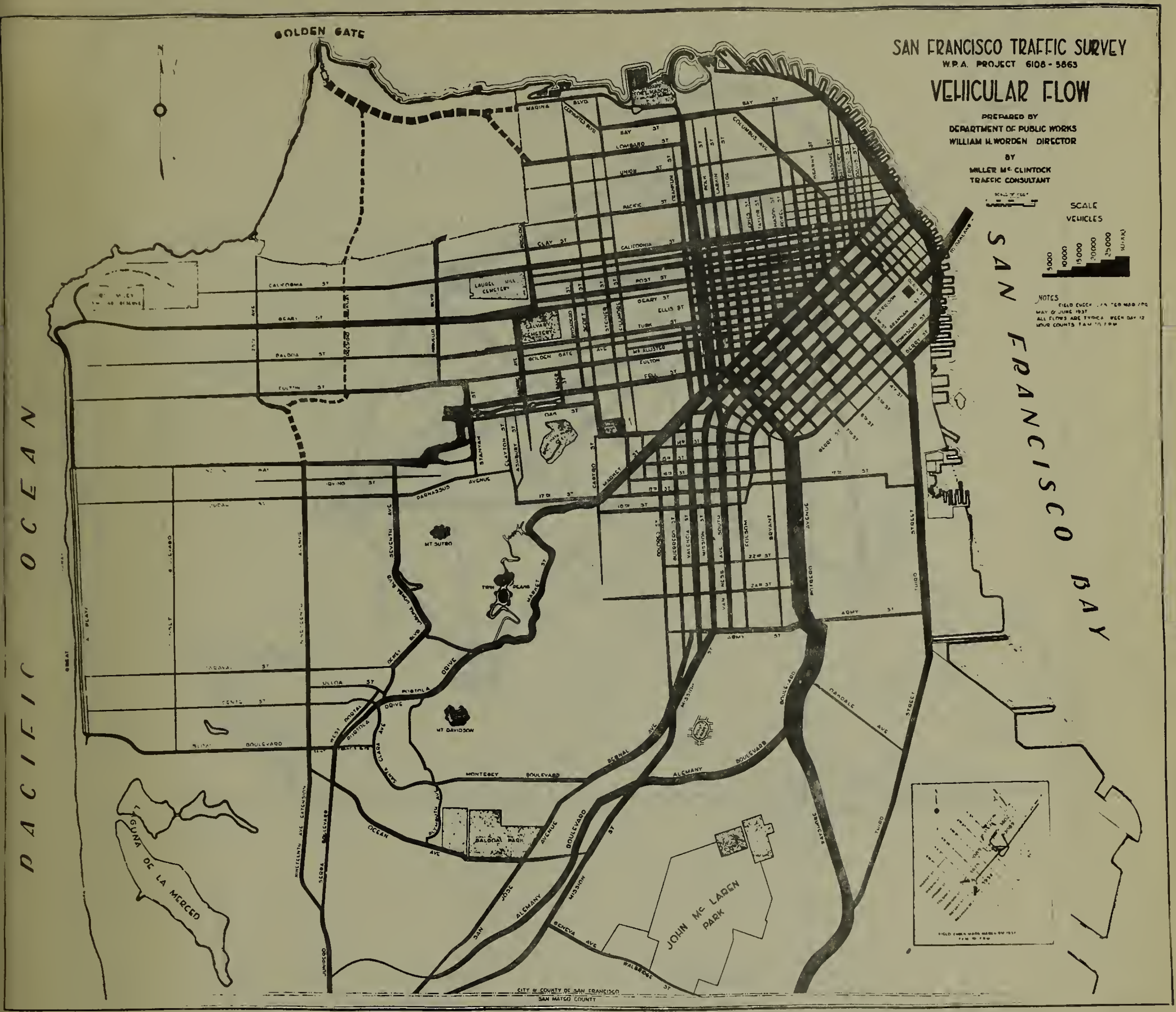
SHOWING IN EACH ZONE THE PERCENTAGE OF TRAFFIC TO AND FROM THE FOUR GATEWAYS OF THE CITY
24-HOUR TRAFFIC FLOW, NOVEMBER 1943

GOLDEN GATE BRIDGE TRAFFIC = 857 TRUCKS - 5.6%
BAY BRIDGE TRAFFIC = 4,483 TRUCKS - 29.3%
SOUTH-EAST TRAFFIC = 5,250 TRUCKS - 34.3%
SOUTH-WEST TRAFFIC = 4,700 TRUCKS - 30.8%

TOTAL TRAFFIC - FOUR GATEWAYS = 15,280 TRUCKS - 100%

ZONE BOUNDARIES
12 ZONE NUMBERS
6.1% ● PERCENTAGE OF TRAFFIC FROM ALL GATEWAYS

SOURCE: S.F. ORIGIN AND DESTINATION STUDY (STATE DIVISION OF HIGHWAYS) NOV. 1943

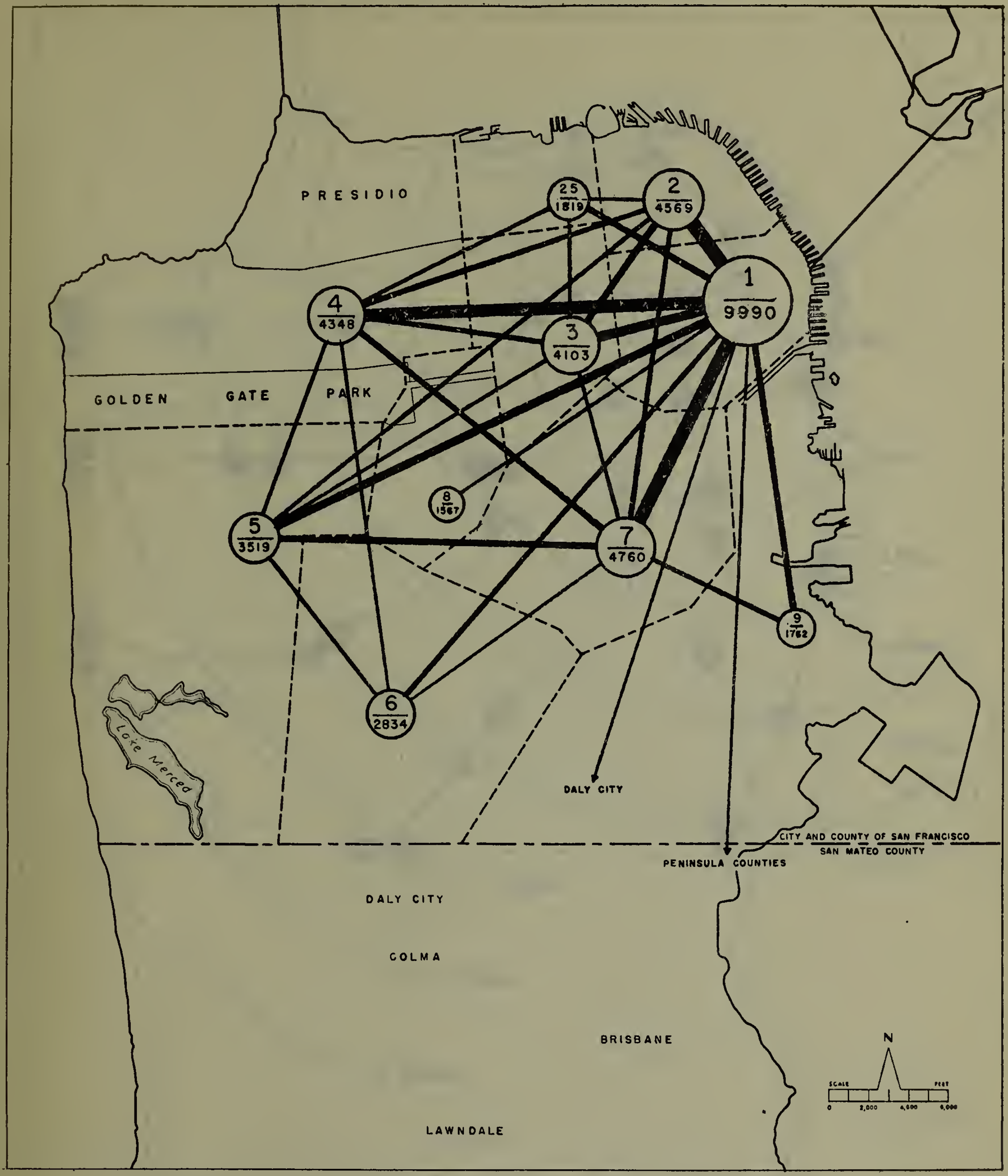


VEHICULAR FLOW

ON A TYPICAL WEEK DAY — 7 A.M. TO 7 P.M. IN 1937

The major flow of traffic is into and out of the central area. Note the relatively light load on the Nineteenth Avenue by-pass, and the heavy volume on Van Ness Avenue.

------ REVISED FLOW TO AND FROM GOLDEN GATE BRIDGE BASED ON 1943 ORIGIN & DESTINATION STUDY BY STATE DIVISION OF HIGHWAYS



ORIGIN AND DESTINATION OF CITY TRAFFIC

COMBINED VEHICULAR MOVEMENT BETWEEN ZONES IN 1937

ZONES	DISTRICTS
1	DOWNTOWN BUSINESS
2 & 25	NORTH BEACH AND MARINA
3 & 4	WESTERN ADDITION AND RICHMOND
5 & 8	SUNSET AND TWIN PEAKS
6 & 7	OUTER MISSION AND MISSION

GOLDEN GATE AND BAY BRIDGE TRAFFIC NOT SHOWN (SEE POSTERS OF ORIGIN AND DESTINATION, BASED ON STATE DIVISION OF HIGHWAYS 1943 DATA)

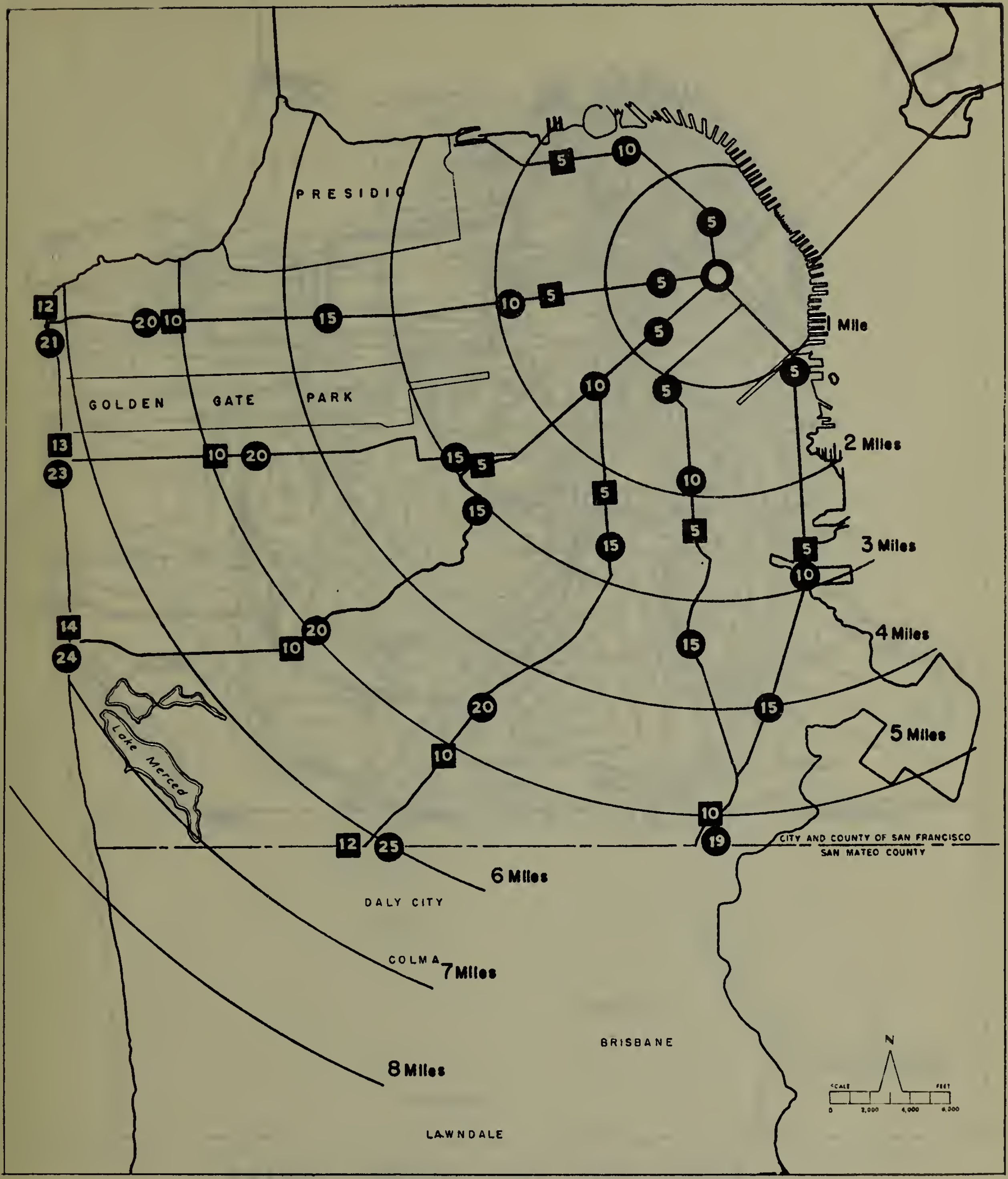
6 / 1567 ZONE NUMBERS AND NUMBER OF SAMPLE CARS

--- ZONE BOUNDARIES

10% 5% 2% PERCENT OF TOTAL MOVEMENT BETWEEN ZONES

SOURCE: BUREAU OF ENGINEERING - TRAFFIC ENGINEERING SECTION. BASED ON 1937 CITY-WIDE TRAFFIC SURVEY DATA

CIRCULATION STUDIES



AUTOMOBILE TRAVEL TIME

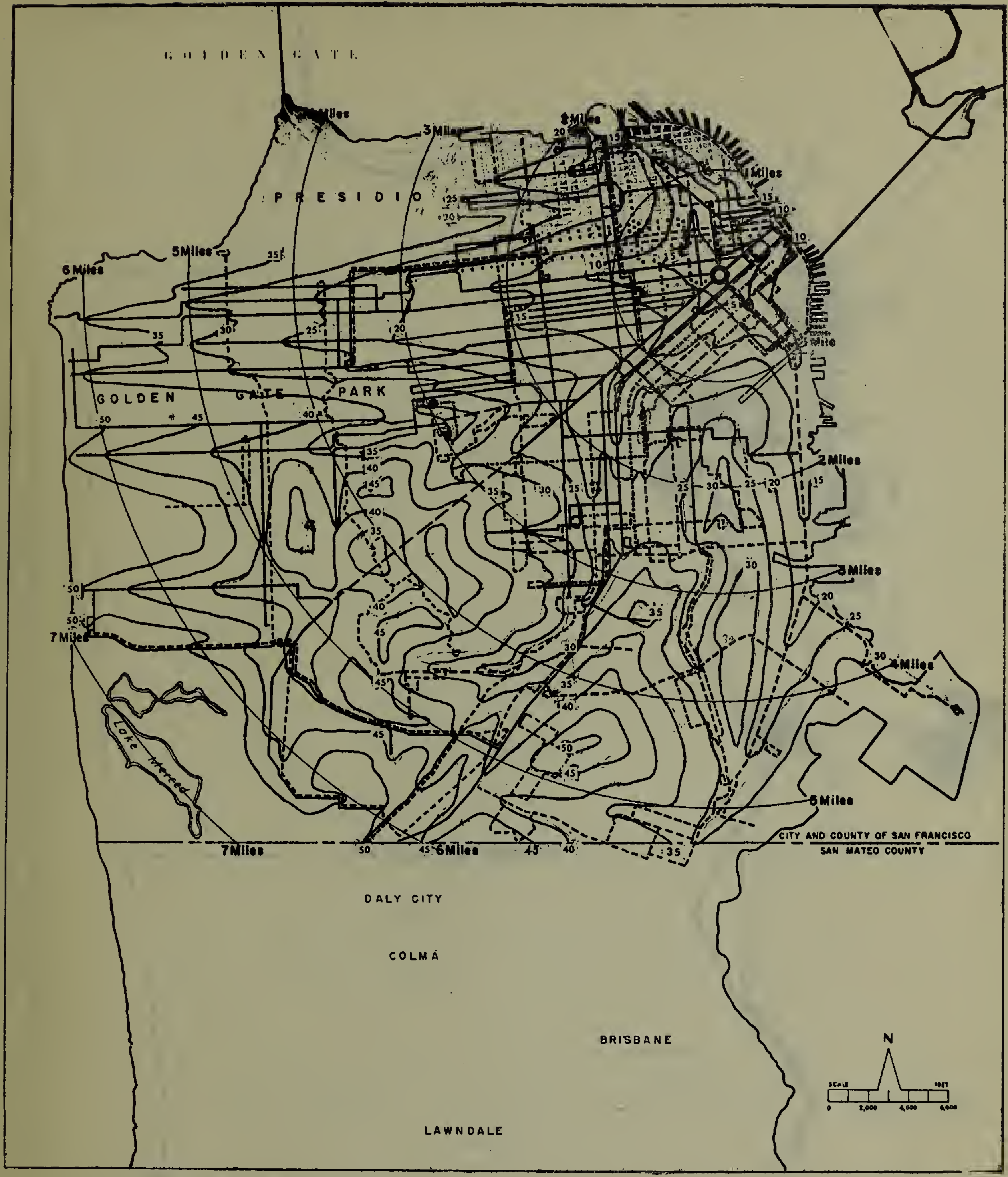
Figures on orange indicate the time required to reach various districts by automobile during rush hours. Figures on black show the time required when streets are relatively free from traffic. It takes about twice as long as necessary to reach most districts. Freeways would make possible economies in automobile travel time.

○ STARTING POINT, 3rd AND MARKET ST. ——— ROUTE TRAVELED

TIME IN MINUTES

■ 5 BASED ON ACTUAL TEST WITH SIREN ON POLICE CAR (BY PLANNING COMMISSION–1942)

● 5 AT EVENING RUSH HOUR BASED ON CITY WIDE SURVEY –1937



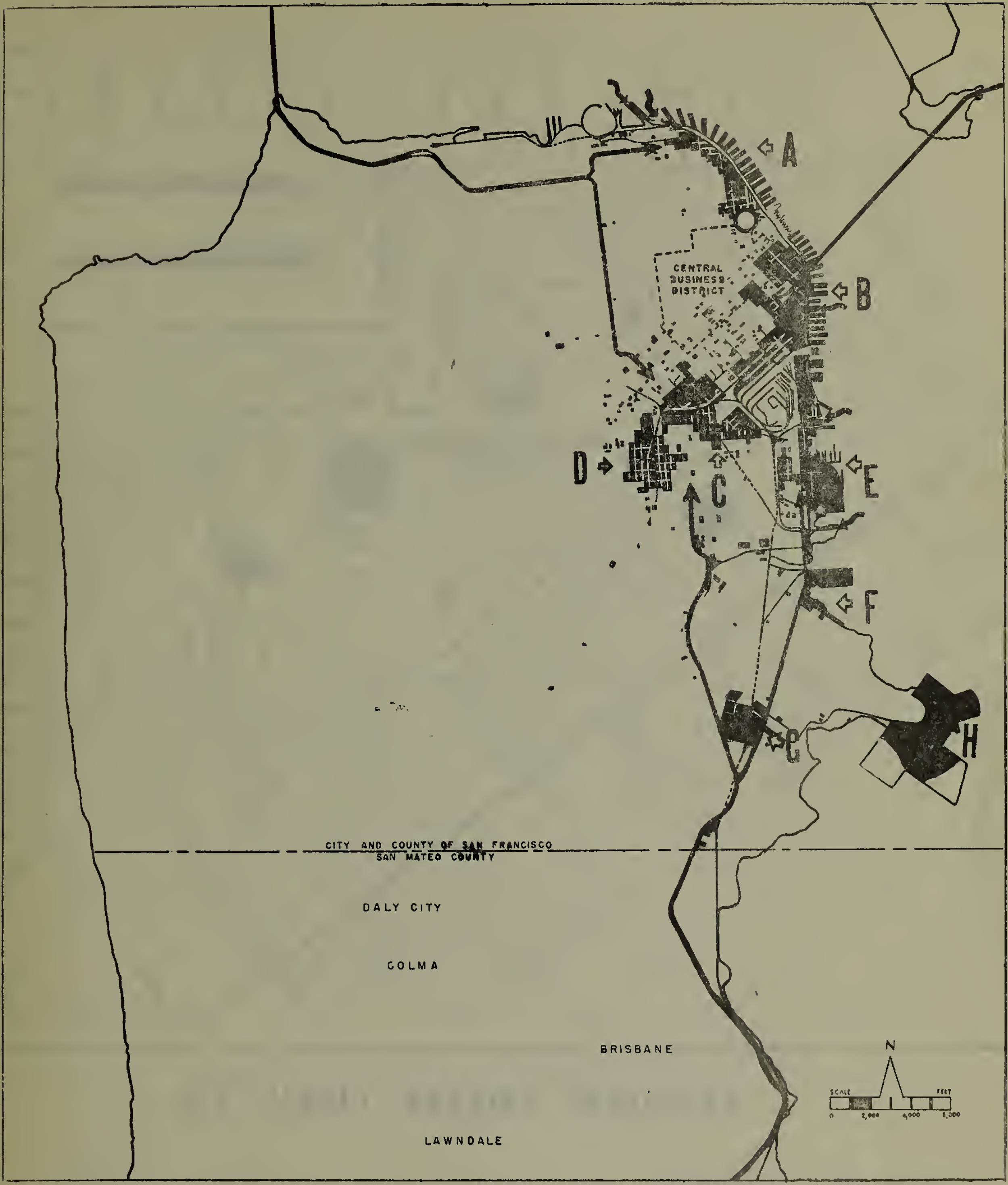
TRANSIT ROUTES AND TIME ZONES

This map shows the main transit routes and the time required to reach various parts of the city from Third & Market Sts. during the evening rush hour. Comparison with chart AUTOMOBILE TRAVEL TIME shows that it takes twice as long to reach most districts by transit lines as by automobile. Mass transportation must be speeded up to prevent further automobile congestion in downtown areas.

○ STARTING POINT, 3rd AND MARKET STREET

∼ TIME ZONE – 5 MIN. INTERVAL	– – – – MOTOR BUS
—— STREET CAR LINE	······ CABLE CAR – MUNICIPAL
–·–·– TROLLEY BUS	······ CABLE CAR CALIF. ST.

SOURCE: CITY PLANNING COMMISSION SURVEY – 1942



FOCAL POINTS OF TRUCK TRAFFIC

Warehouses and industrial plants are points of greatest trucking concentration. About 84 percent of the floor area occupied by such concerns is located south of Market Street. The tonnage handled in these areas is the "business" on which San Francisco lives. 61 percent of these heavy tonnage areas are served by Third Street and the Embarcadero. Only 15 percent of the traffic in the Central Business District is composed of trucks.

A — 164 Acres 16.3 %
B — 266 " 26.4 %
C — 112 " 11.1 %
D — 73 " 7.3 %
E — 143 " 14.2 %

F — 18 Acres 1.8 %
G — 26 " 2.6 %
H — AREA NOT INCLUDED.

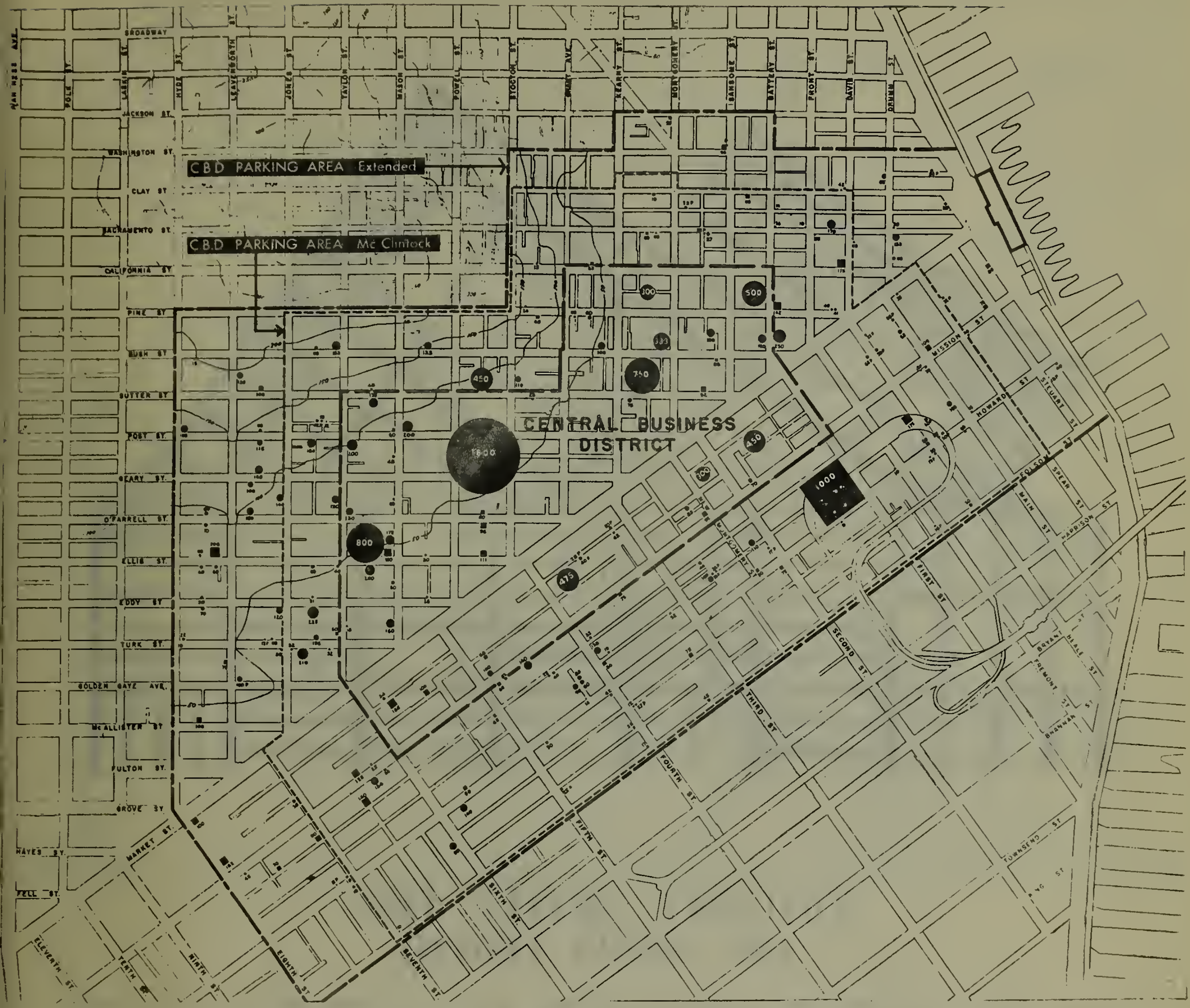
SCATTERED AREAS
204 Acres 20.3 %

TOTAL AREA = 1,006 Acres

← MAJOR TRUCK ROUTES
○ WHOLESALE PRODUCE MARKET
■ AREAS OF HEAVIEST TRUCKING CONCENTRATION

→ R.R. FREIGHT FERRY
— RAILROADS

PERCENTAGES ARE BASED ON ESTIMATES OF TOTAL FLOOR AREAS OF WAREHOUSES AND SPECIAL SERVICES HAVING A LARGE VOLUME OF TRUCKING.



OFF STREET PARKING FACILITIES

		NUMBER OF CAR SPACES		
		GARAGES	LOTS	TOTAL
WITHIN CENTRAL BUSINESS DISTRICT (1)	——	7,653	1,610	9,263
WITHIN C.B.D. PARKING AREA (2)	------	11,542	6,256	17,798
WITHIN C.B.D. PARKING AREA EXTENDED (3)	— — —	13,711	7,859	21,570

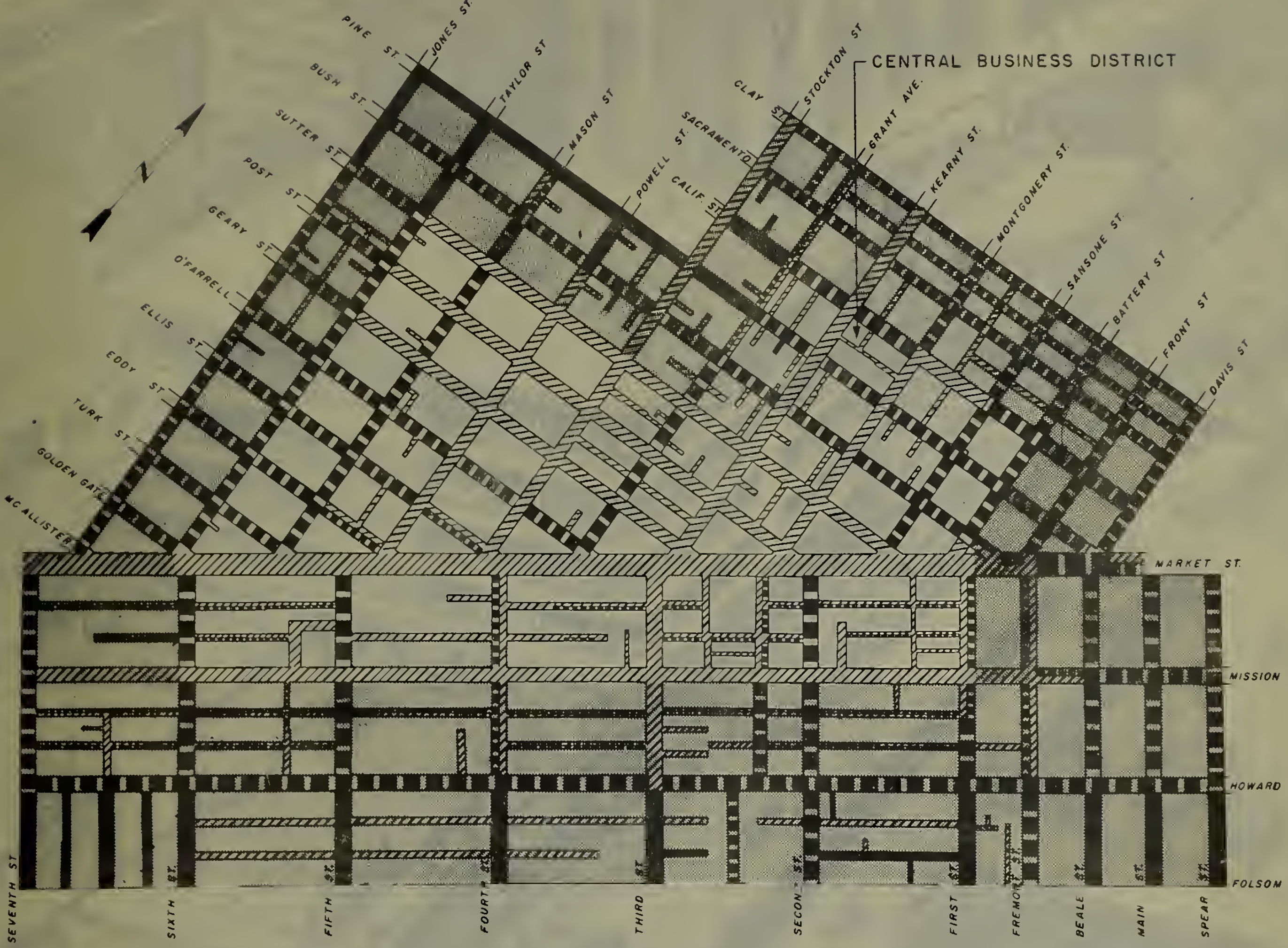
● 100 GARAGE ▩ 100 PARKING LOT

NUMBERS INDICATE MAXIMUM GARAGE OR LOT CAPACITY

(1) AS DEFINED IN THE S.F. CITY-WIDE TRAFFIC SURVEY REPORT - 1937

(2) THIS AREA IS THE SAME AS THE "DOWNTOWN BUSINESS AREA" SHOWN ON THE CURB PARKING CHART

(3) THIS IS THE AREA COVERED BY THE CITY PLANNING COMMISSION SURVEY OF 1944

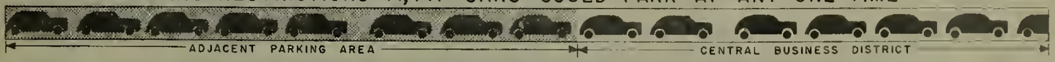


CURB PARKING FACILITIES
DOWNTOWN BUSINESS AREA

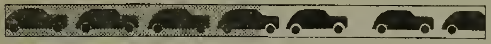
ONLY 33% OF THE ORIGINAL CURB PARKING SPACE IN THE DOWNTOWN AREA IS NOW AVAILABLE FOR PARKING DUE TO LEGAL RESTRICTIONS WHICH ARE NECESSARY TO INSURE FREE MOVEMENT OF TRAFFIC. LIMITED PARKING ACCOUNTS FOR 25% LEAVING ONLY 8% OF THE ORIGINAL CURB SPACE FOR UNLIMITED PARKING.

IN THE DOWNTOWN BUSINESS AREA:

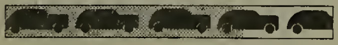
WITHOUT PARKING RESTRICTIONS 14,447 CARS COULD PARK AT ANY ONE TIME



BY 1937 PARKING RESTRICTIONS HAD REDUCED THE AVAILABLE SPACES TO 6,600

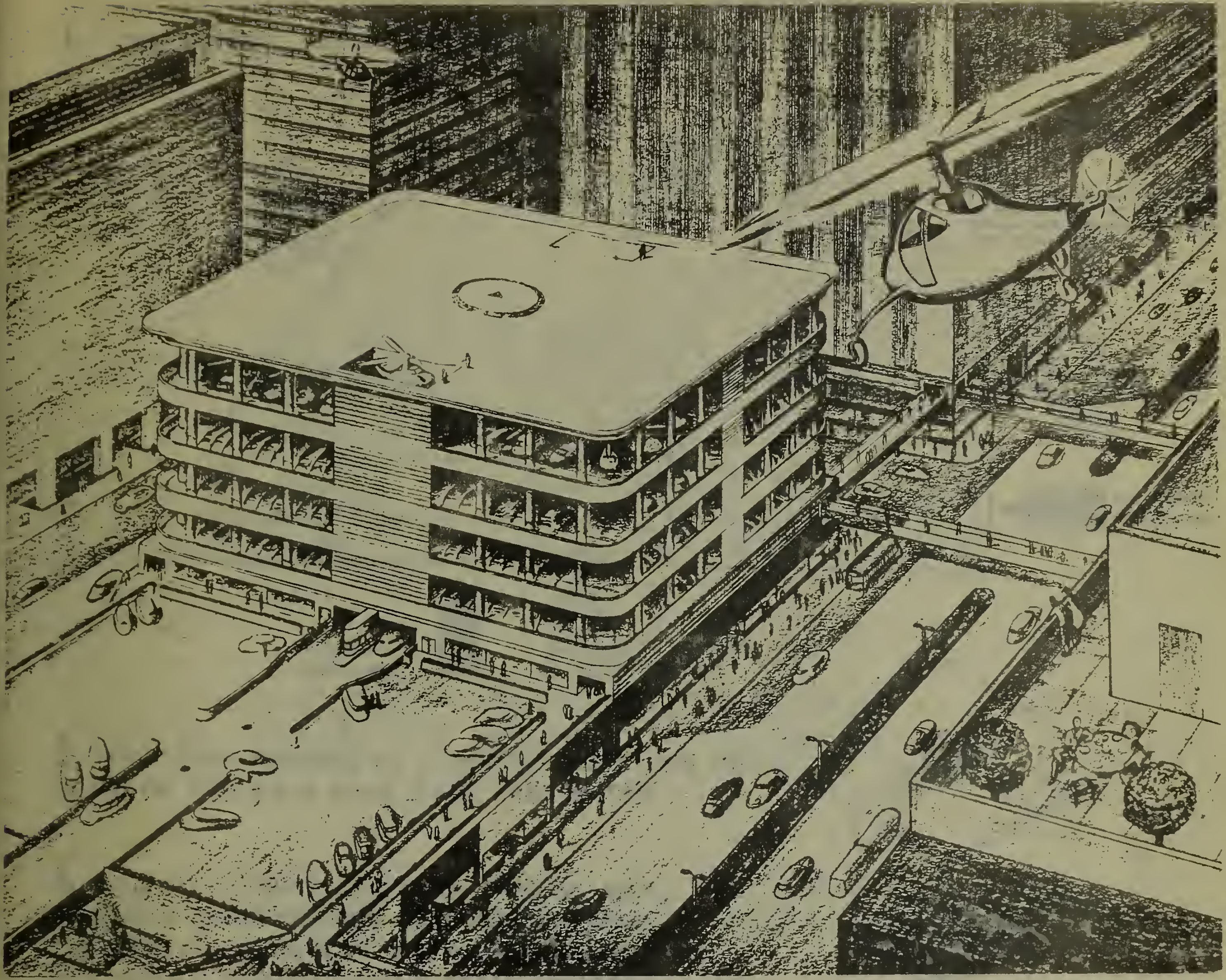


BY 1944 ADDITIONAL RESTRICTIONS HAD REDUCED THE AVAILABLE SPACES TO 4,800



▨ NO PARKING　■■■ LIMITED PARKING　▬ UNLIMITED PARKING　🚗 = 1,000 CARS

SOURCE: S.F. CITY-WIDE TRAFFIC SURVEY-1937 AND CITY PLANNING COMMISSION FIELD INVESTIGATIONS 1944



TERMINAL PARKING FACILITIES

Widening a street and cutting down a sidewalk here and there will not solve our parking problem.

We must build a system of cheap, efficient, self-operating central terminals for our own and our neighbors' cars.

This can be a joint public-private enterprise, meeting a definite postwar need.

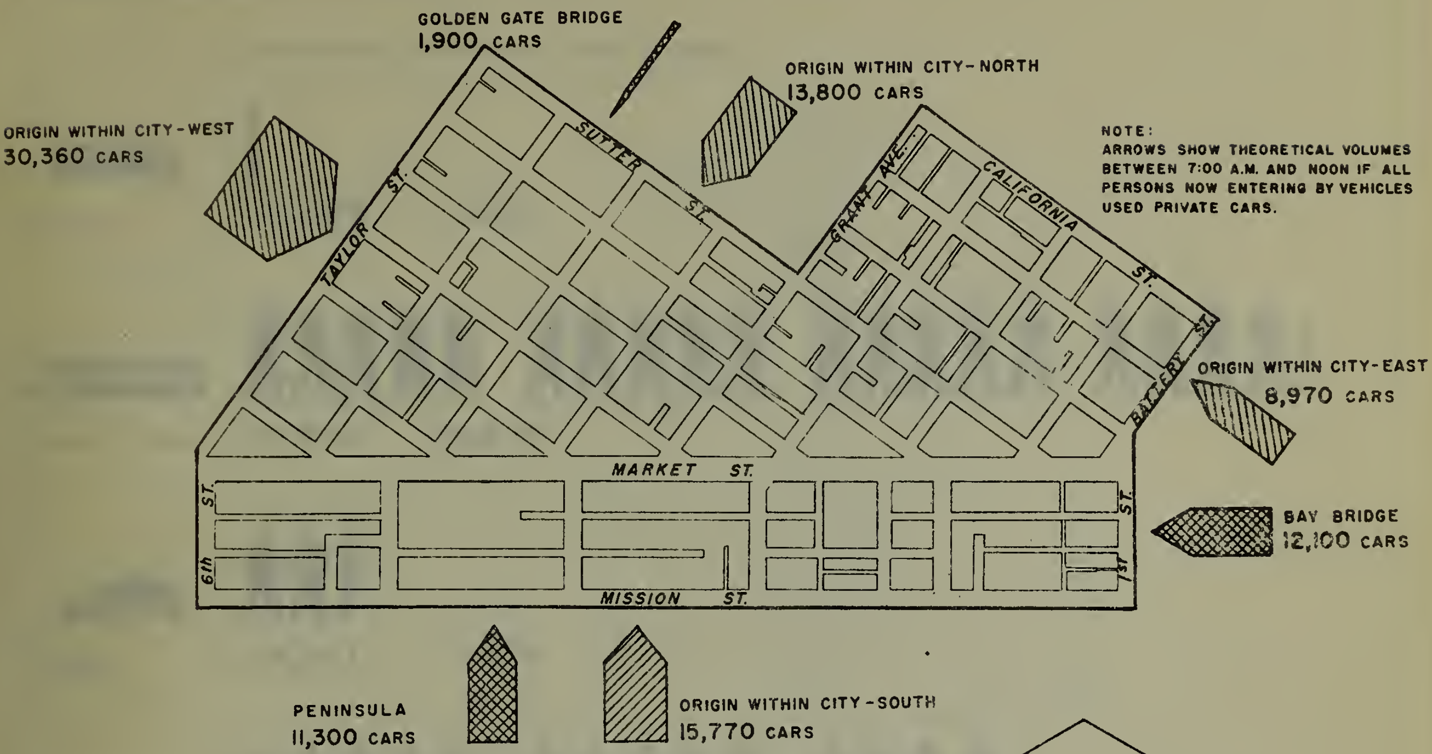
Automobiles and helicopters can use the upper space.

Stores can use the ground and mezzanine floors.

If the project is properly planned it can be made to pay.

CIRCULATION STUDIES

1. THE CENTRAL BUSINESS DISTRICT OCCUPIES ABOUT 225 ACRES

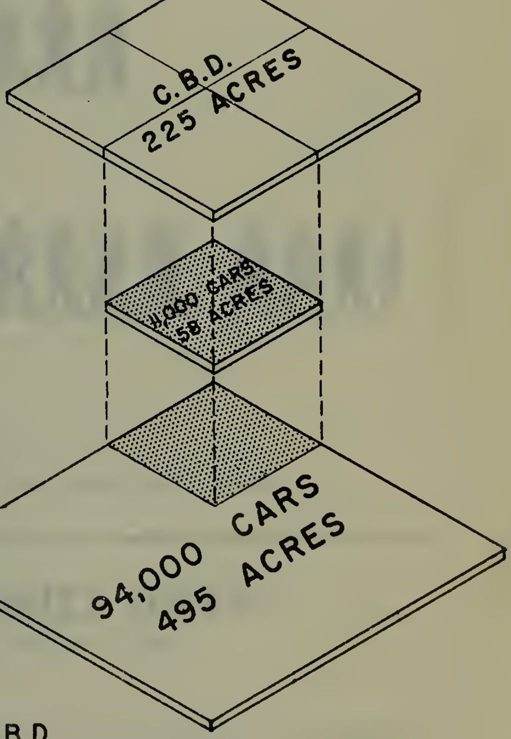


NOTE: ARROWS SHOW THEORETICAL VOLUMES BETWEEN 7:00 A.M. AND NOON IF ALL PERSONS NOW ENTERING BY VEHICLES USED PRIVATE CARS.

2. THIS AREA REDUCED TO A SQUARE LOOKS LIKE THIS. BETWEEN 7:00 A.M. & NOON 11,000 CARS ENTER

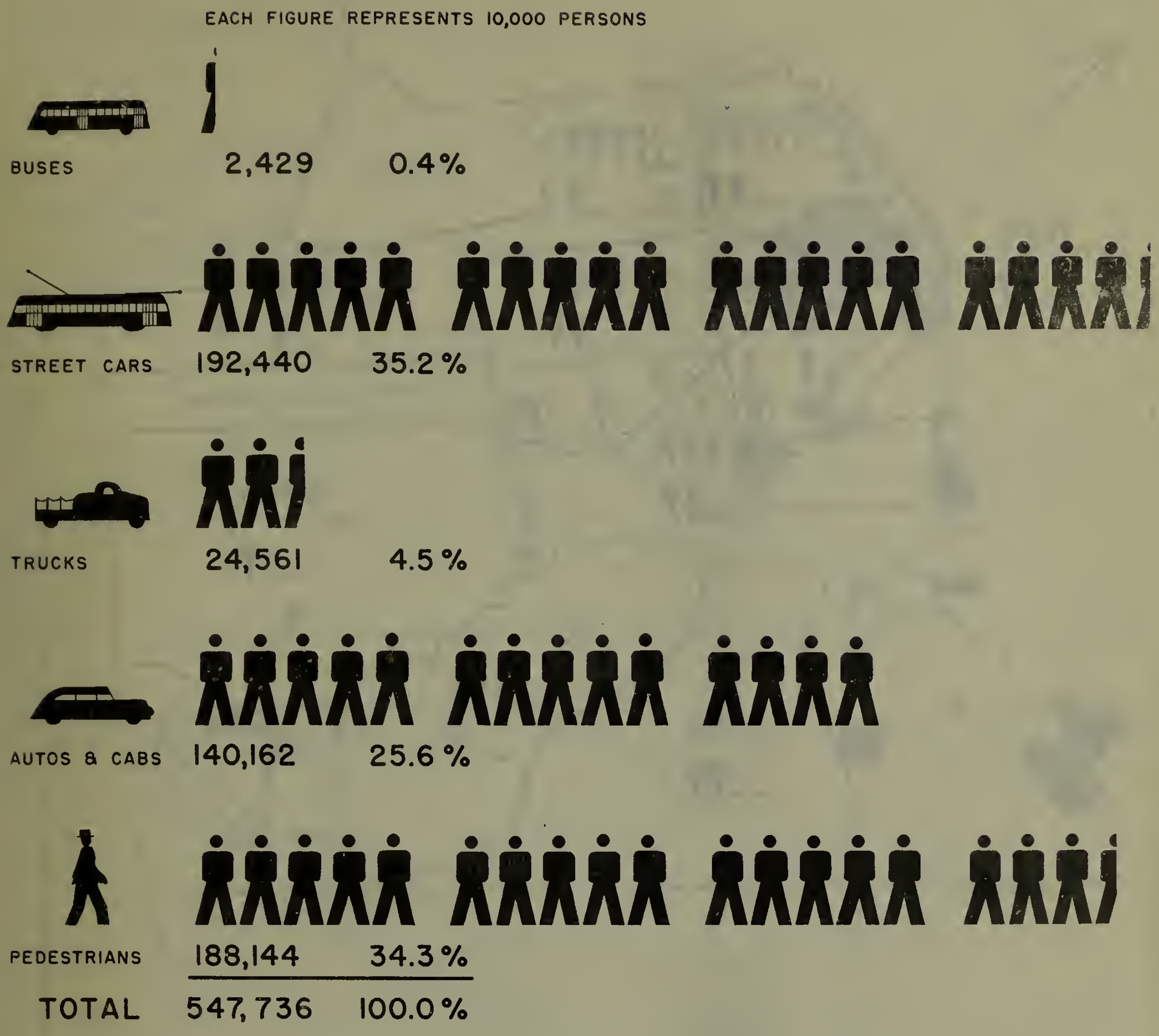
3. ALL OFF-STREET AND CURB PARKING NOW AVAILABLE FOR THE 11,000 CARS NOW ENTERING THE CENTRAL BUSINESS DISTRICT, COMBINED IN A SINGLE SQUARE, WOULD TOTAL 58 ACRES

4. BUT IF ALL PERSONS NOW ENTERING THE CENTRAL BUSINESS DISTRICT BY STREET-CAR, BUS & AUTO (SEE ARROWS ON MAP ABOVE) WERE TO ENTER BY PRIVATE AUTOMOBILE, 94,000 CARS WOULD BE USED, WHICH WOULD REQUIRE A PARKING AREA OF 495 ACRES - 9 TIMES THE PRESENT PARKING SPACE, TWICE THE SIZE OF THE C.B.D.



LIMITATIONS ON INCREASED PARKING IN THE CENTRAL BUSINESS DISTRICT

This chart shows what would happen if ALL persons now entering the central business district used private automobiles. The 11,000 cars now entering the district would be increased to 94,000, requiring either 55 more Union Square Garages, or a tremendous parking lot twice the size of the WHOLE central business district. Obviously, downtown traffic conditions will become intolerable unless we get better transit services and more parking terminals.



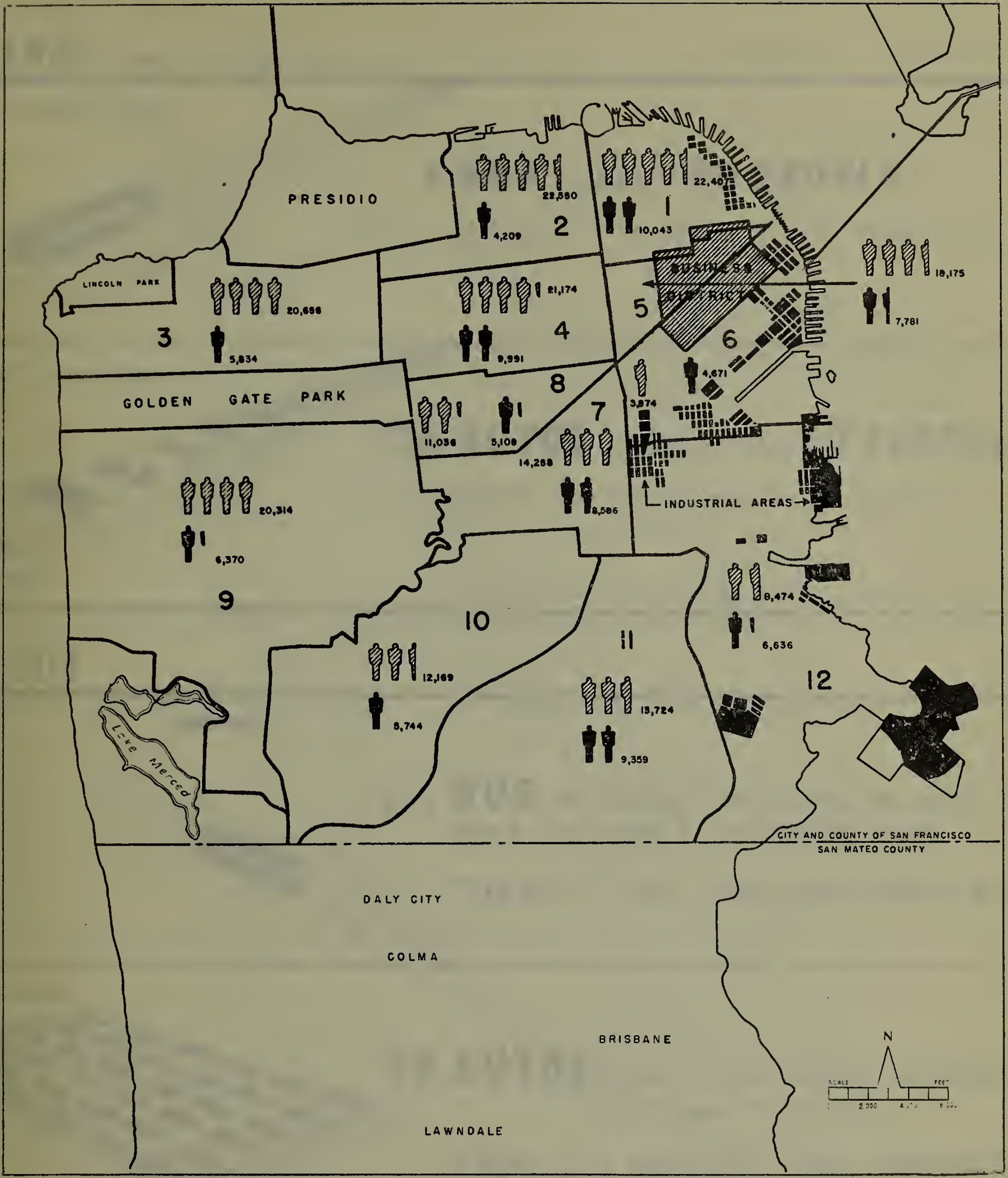
NUMBER OF PERSONS ENTERING THE CENTRAL BUSINESS DISTRICT BY VEHICLES = 359,592

PERSONS ENTERING THE CENTRAL BUSINESS DISTRICT

DURING A 12-HOUR PERIOD FROM 7:30 A.M. TO 7:30 P.M. - 1937

This chart shows the number of persons entering the central business district by various methods of transportation. The greatest number of persons, about 35% of the total were carried by street cars and buses, while 25% used automobiles. However, use of the automobile is increasing. Between 1926 and 1937 the number of persons entering the central business district by autos, taxis, and trucks increased by 8.17%, while those entering by street cars and buses decreased by 10.43%. The street system of the central business district, designed in the 1850's, is overloaded now; an increasing volume of private automobiles cannot by accomodated. More efficient mass transit must be provided.

SOURCE: S.F. CITY WIDE TRAFFIC SURVEY - 1937



WORKING POPULATION BY DISTRICTS AND MAIN EMPLOYMENT AREAS

San Francisco is predominantly a "white-collar" city. Only a third of its workers are employed by industry. Both "white-collar" and industrial workers need better transportation. They must be able to travel quickly and safely from all residential districts to the main business and industrial areas concentrated in the eastern part of the city.

1- NORTH BEACH – CHINATOWN
2 MARINA - PACIFIC HEIGHTS
3- PARK PRESIDIO (RICHMOND)
4- WESTERN ADDITION
5- DOWNTOWN
6- SOUTH OF MARKET
7- MISSION
8- BUENA VISTA
9- SUNSET - PARKSIDE - WEST PORTAL
10- NOE - GLEN PARK - OCEAN AVE.
11- VISITACION – EXCELSIOR
12- POTRERO - BAY VIEW

▨ = 5,000 NON-INDUSTRIAL WORKERS
(PROFESSIONAL, SEMIPROFESSIONAL, PROPRIETORS, MANAGERS, OFFICIALS, CLERICAL, SALES AND DOMESTIC SERVICE WORKERS.)

■ = 5,000 INDUSTRIAL WORKERS
(CRAFTSMEN, FOREMEN, OPERATIVES, NON-DOMESTIC SERVICE WORKERS AND LABORERS.)

SOURCE: 1940 U.S. CENSUS

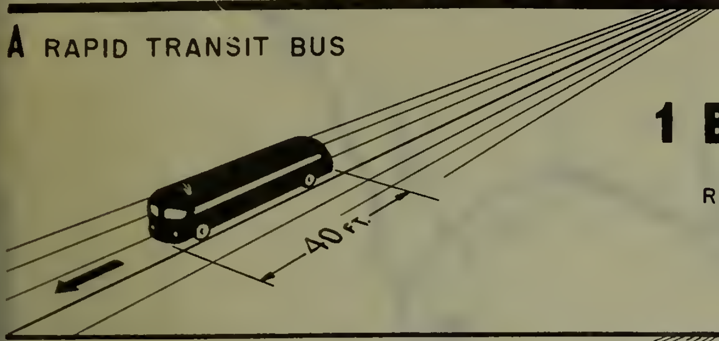
STUDY AREAS ARE COMBINATIONS OF U.S. CENSUS TRACTS.

CIRCULATION STUDIES

ON FREEWAY

SPEED: 45 MILES PER HOUR

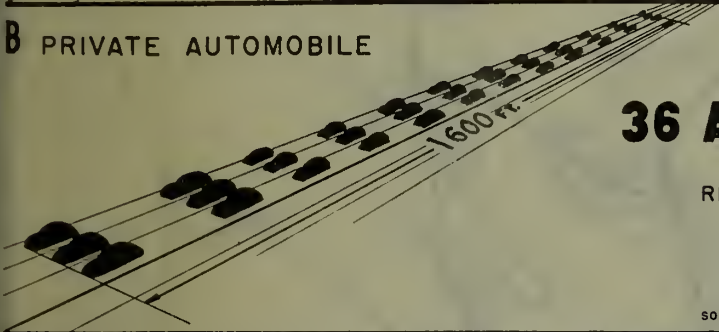
A RAPID TRANSIT BUS



1 BUS CARRIES **60 PEOPLE**

REQUIRES 40 FEET (APPROX.) OF SPACE ON ONE LANE

B PRIVATE AUTOMOBILE



36 AUTOS NEEDED FOR **60 PEOPLE**

REQUIRE 1,600 FEET OF SPACE ON THREE LANES

SOURCE: TRAFFIC SURVEYS WHICH SHOW THE AVERAGE LOAD OF PRIVATE AUTOS = 1.75 PEOPLE

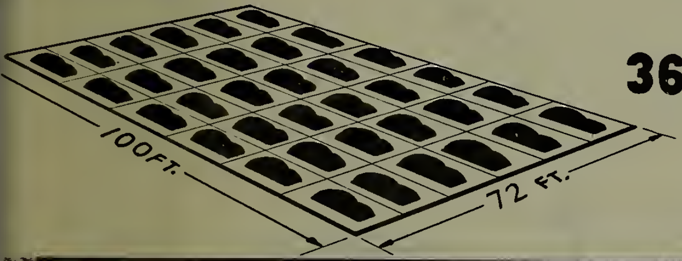
IN THE CITY

A BUS

THE **BUS** RETURNS FOR MORE PASSENGERS OR GOES TO STORAGE YARD

THERE IS NO PARKING PROBLEM

B AUTOMOBILE



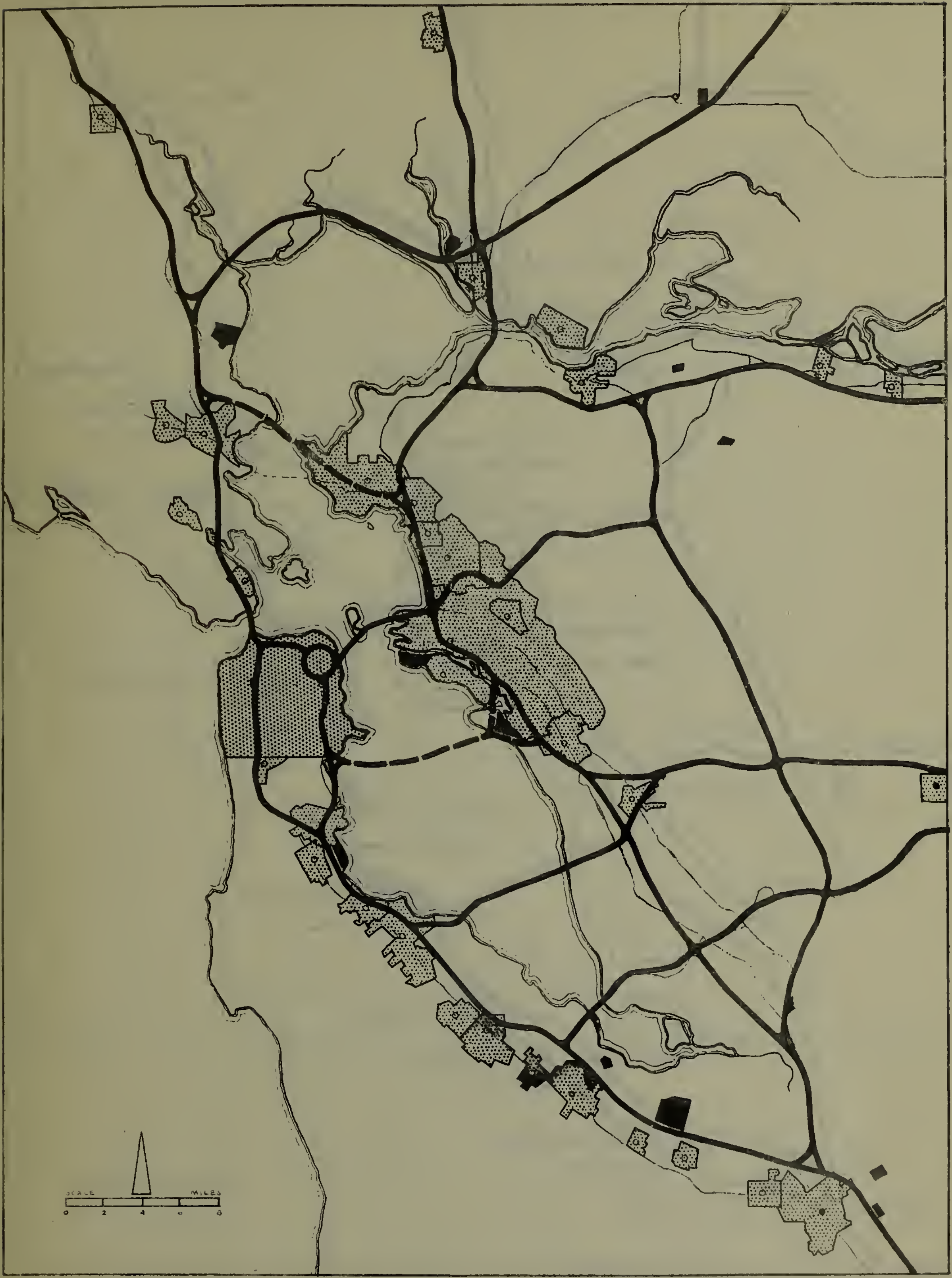
36 AUTOS MUST FIND SPACE TO AWAIT RETURN OF RIDERS

7,200 SQ.FT. NEEDED FOR PARKING

HOW SHALL WE TRAVEL? BY BUS OR PRIVATE AUTOMOBILE?

Modern buses traveling rapidly on freeways can carry people to and from the city with speed, comfort and safety. They require minimum highway space and reduce traffic congestion.

Within the city buses require no parking space. Yet, if all passengers of but ONE BUS had driven their own cars, a parking area equivalent to three city lots would have been required.

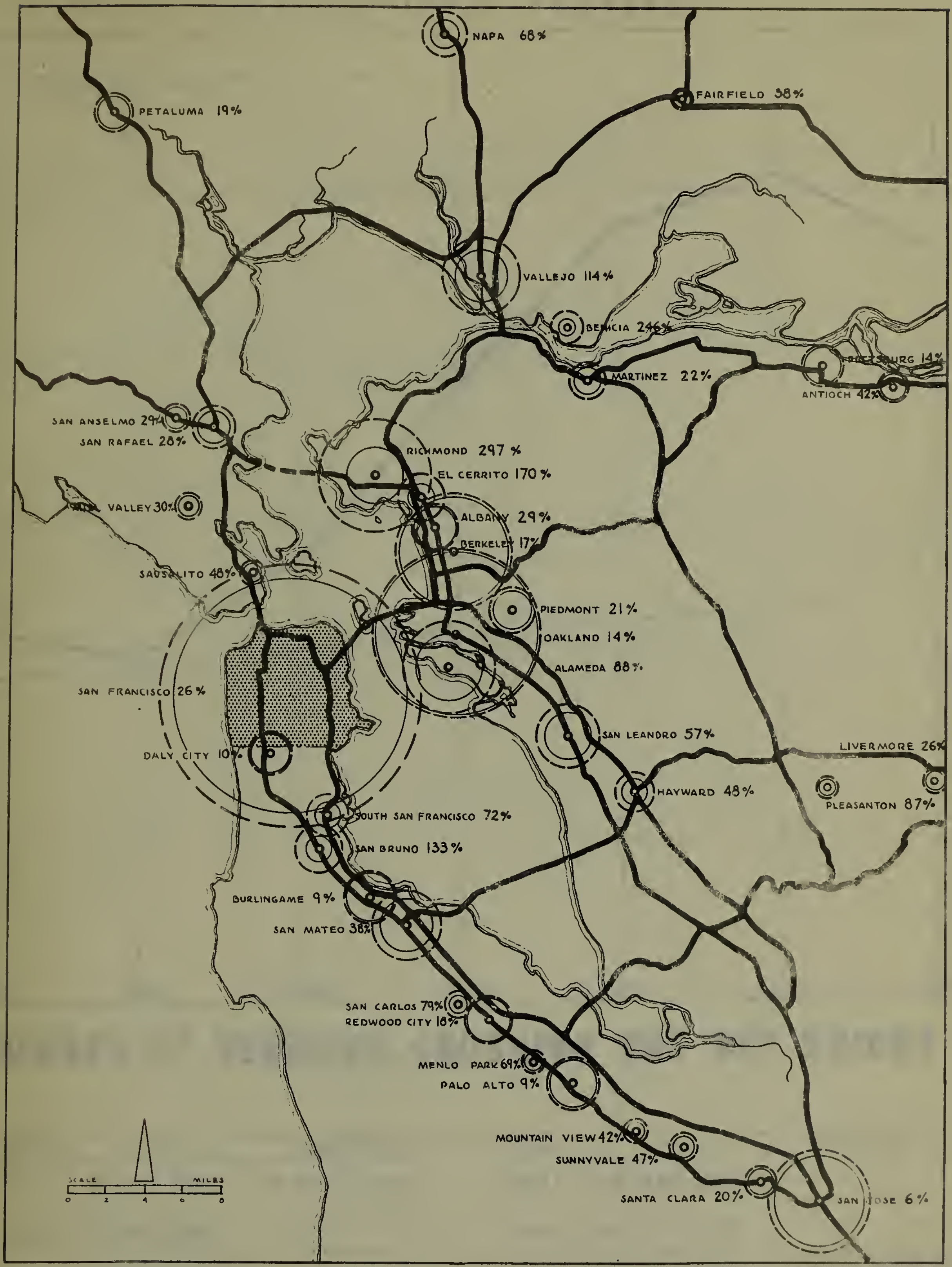


A REGIONAL FREEWAY SYSTEM

TO CONNECT BAY AREA COMMUNITIES AND AIRPORTS

A system of freeways must ultimately be built to serve the entire Bay Region San Francisco will always be a dominant objective and major point of interchange in this system.

▨ INCORPORATED PLACES OVER 2,500 POPULATION ■ EXISTING AIRPORTS ━━ FREEWAY ROUTES ━ ━ NEW BAY CROSSINGS



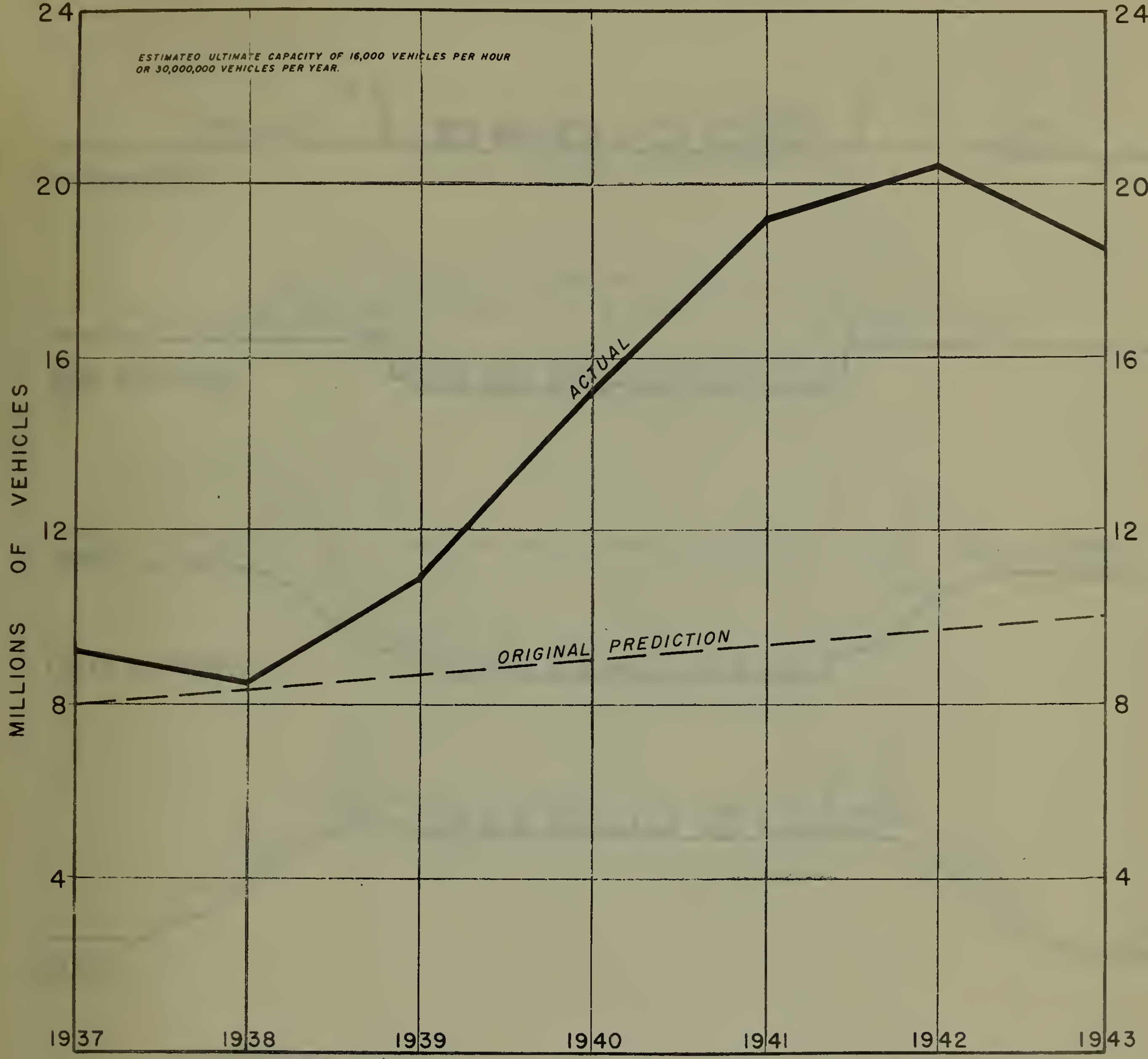
REGIONAL HIGHWAYS AND URBAN CENTERS

SHOWING POPULATION INCREASES IN BAY AREA - 1940 TO 1944

Present highways link together and serve a number of important cities. The Bay Region is growing in population and needs a more complete and modern system of high-speed motor ways.

○ 1940 POPULATION ◌ WARTIME POPULATION % PERCENT OF INCREASE SINCE 1940 — MAIN HIGHWAYS

SOURCE: U.S. CENSUS AND S.F. CHAMBER OF COMMERCE

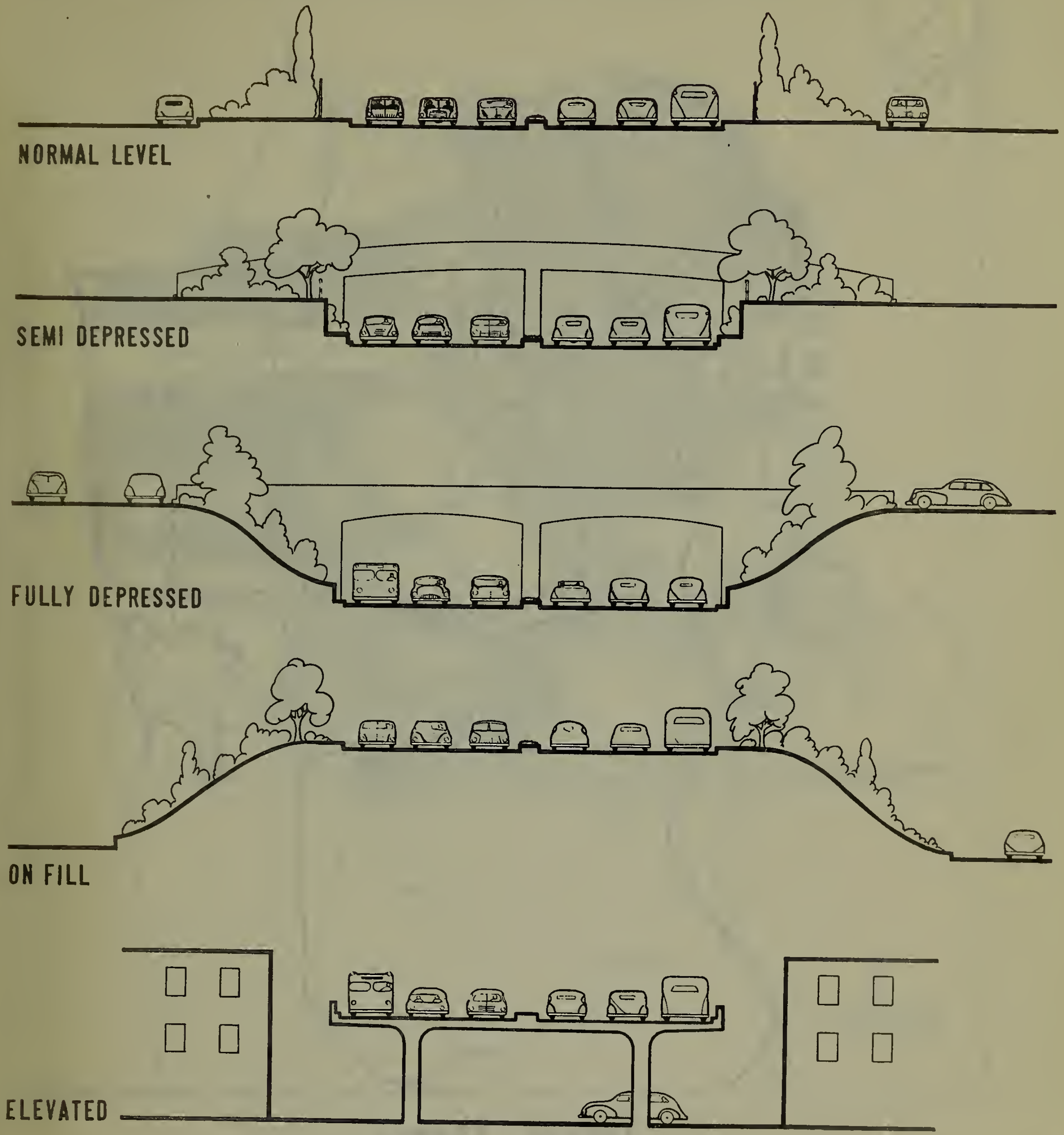


NUMBER OF VEHICLES CROSSING THE BAY BRIDGE

YEAR	ACTUAL	PREDICTED	YEAR	ACTUAL	PREDICTED
1937	9,109,360	8,000,000	1941	19,099,053	------
1938	8,642,585	------	1942	20,571,474	------
1939	10,862,945	------	1943	18,582,000	10,000,000
1940	15,264,414	------	1950	?	12,600,000

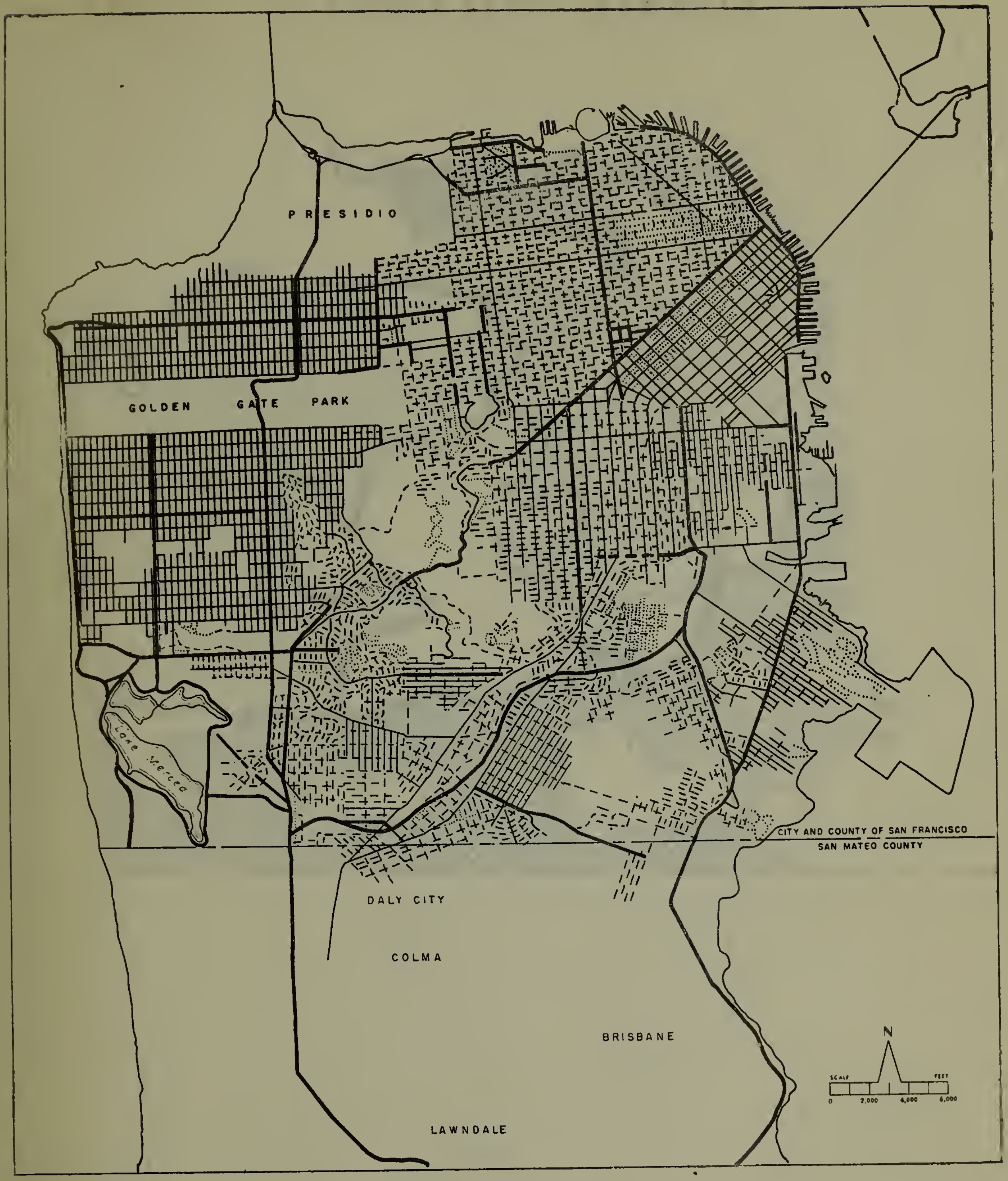
SOURCE: THE S.F.-OAKLAND BAY BRIDGE – CALIF. TOLL BRIDGE AUTHORITY AND S.F.-OAKLAND BAY BRIDGE ADMINISTRATION REPORT.

DECEMBER 1944



FREEWAY TYPES

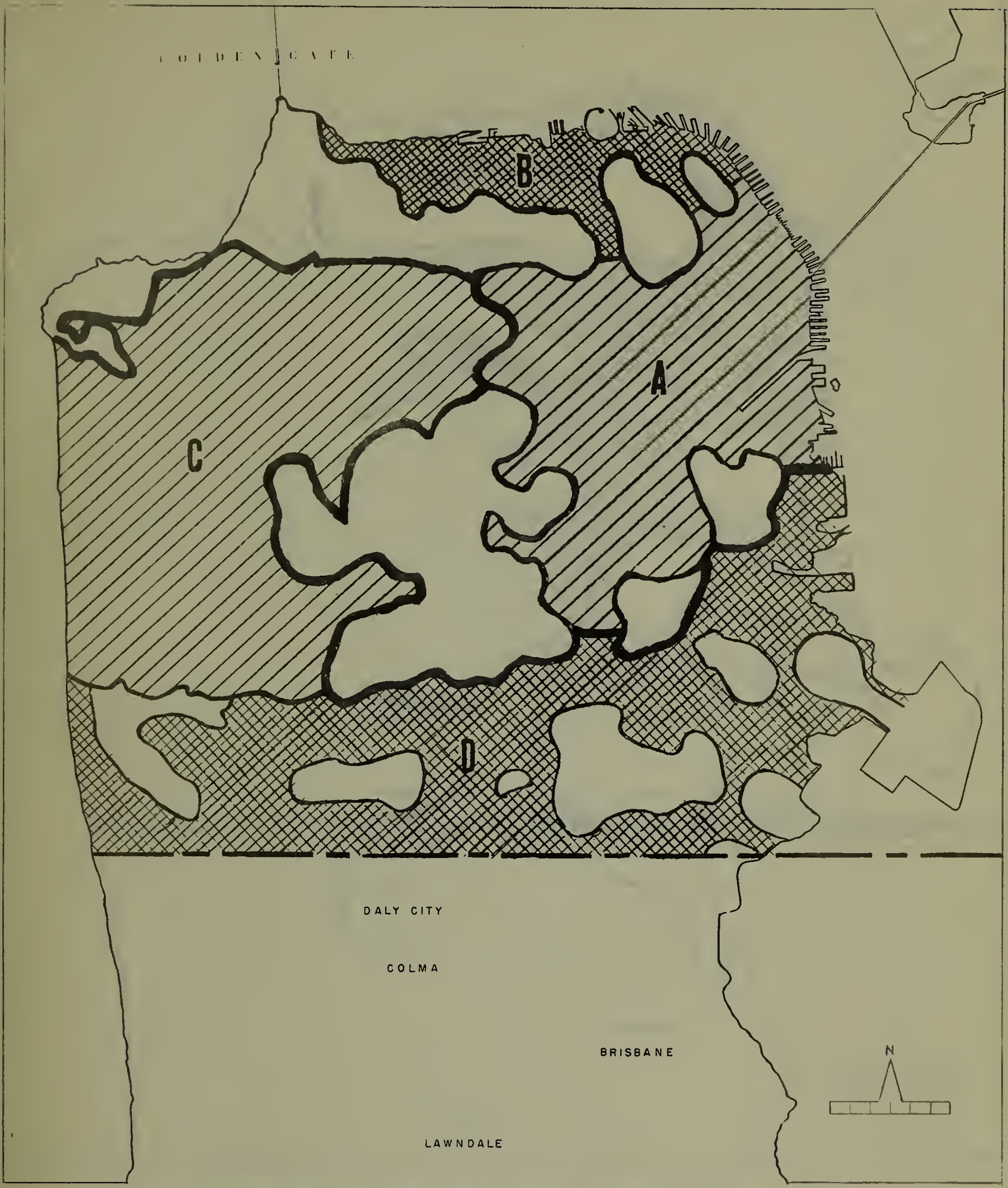
The freeway is detached from property, legally and by the manner of constructing the roadways. The type used would depend upon the area traversed, the cost of right-of-way and constuction, and other factors.



STREET WIDTHS

The street pattern of San Francisco is the reverse of what it should be to meet traffic needs today. Wide streets appear in outer residential areas while the congested central district is generally characterized by narrow streets.

━━━━ 90' AND OVER
──── 70' TO 90'
------ 50' TO 70'
.... 30' TO 50'



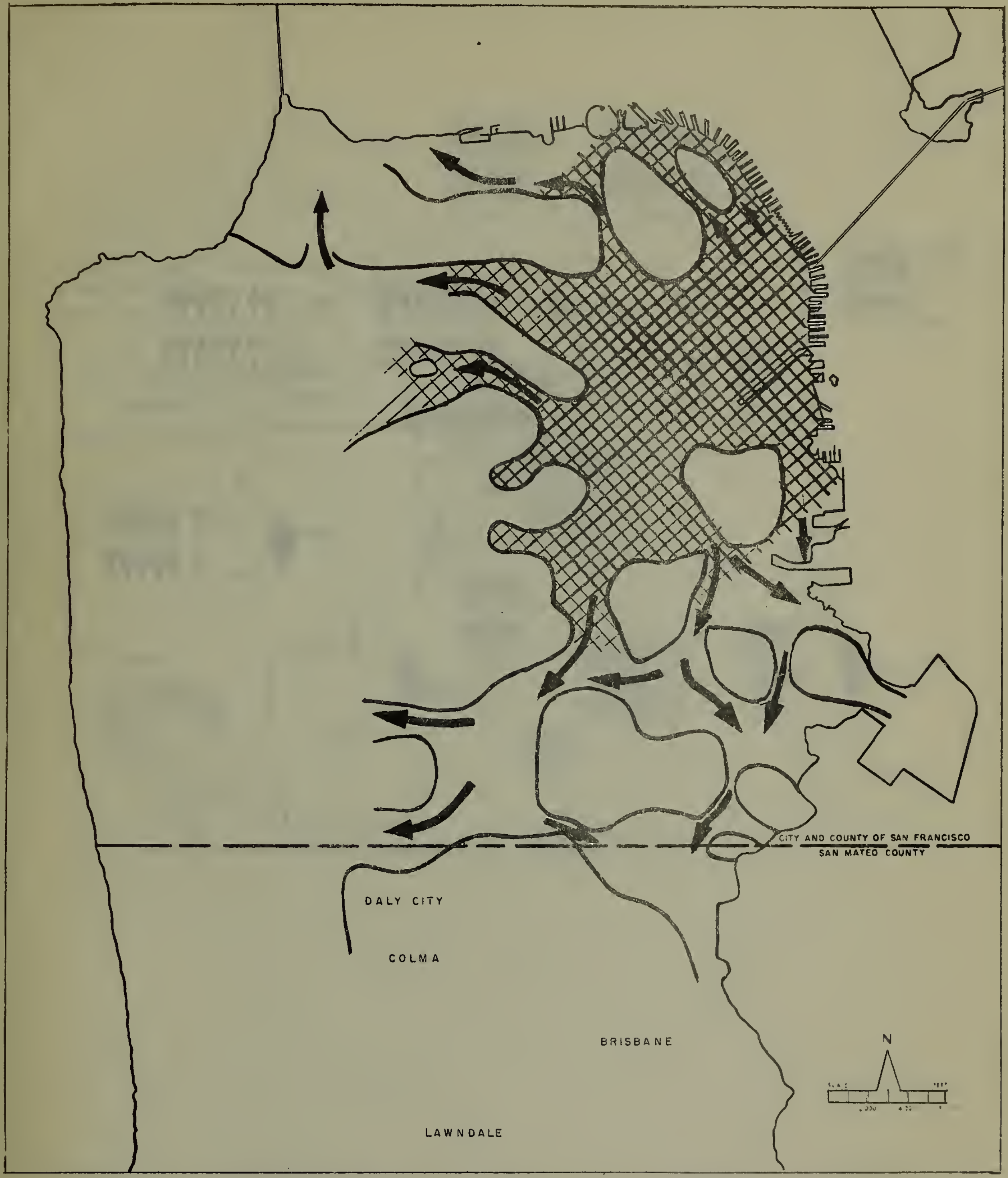
NATURAL GEOGRAPHIC DISTRICTS

A - A gently sloping area, first to be developed, now the central business and residential district.

B - An area of sightly slopes, now high value residential property.

C - Western district sloping toward the sea, once called the Great Sand Bank.

D - Connected valley areas cut by the county line.



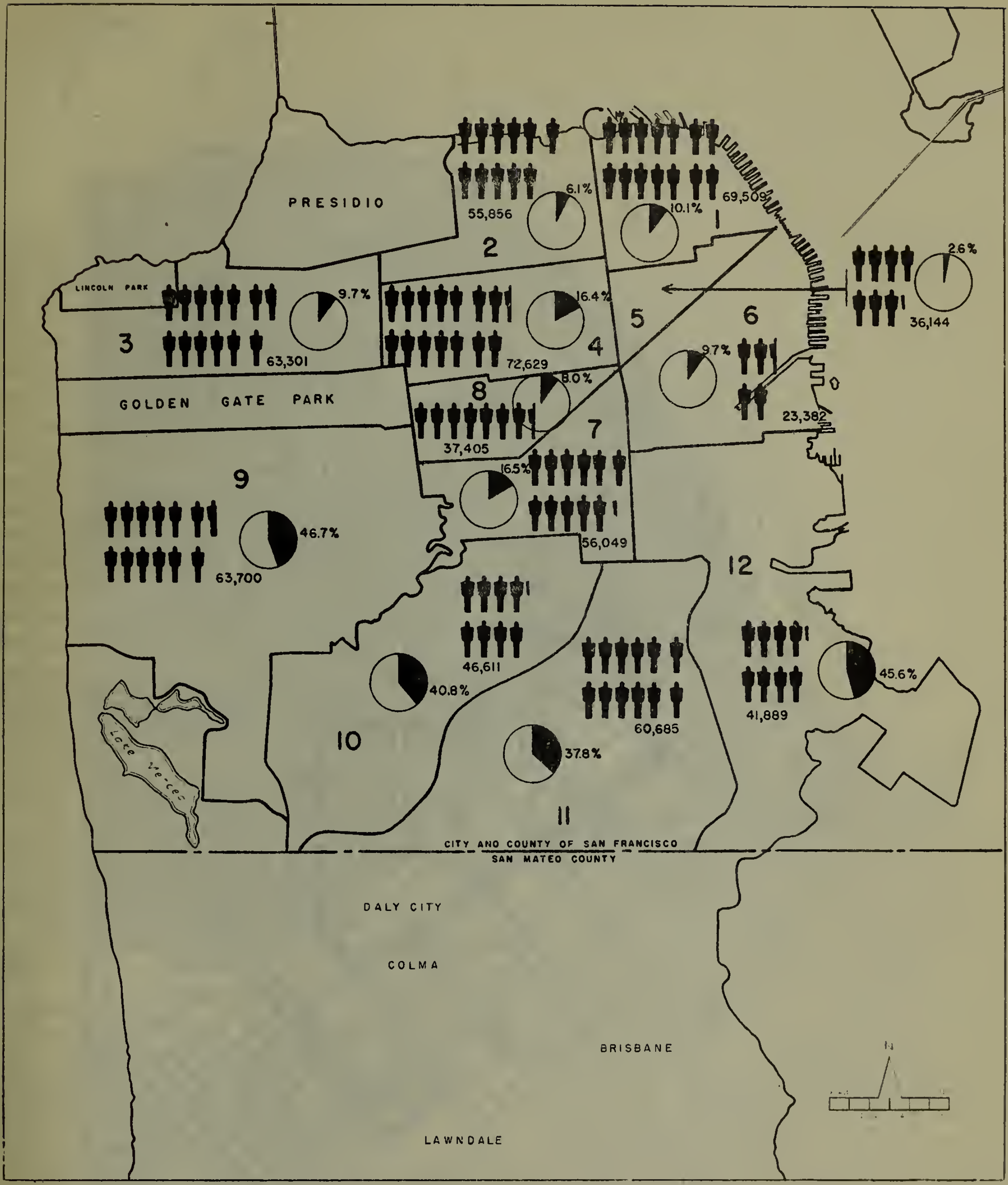
NATURAL OUTLETS FROM THE CENTRAL AREA

One of the main problems of circulation in the city is to get an increasing number of vehicles into and out of the central developed area. This map shows the main natural outlets.

○ HILLS

← LOW GRADIENT PASSES TO OTHER AREAS

▨ CENTRAL AREAS OF GENTLY SLOPING LAND, USED MAINLY FOR BUSINESS AND INDUSTRY



POPULATION AND PERCENTAGE OF VACANT LAND

The older, close-in sections of the city show little space for new development. Significant population increases can be expected principally in the outlying districts. Good streets and transit services will stimulate growth and improvement of all sections.

1 - NORTH BEACH - CHINATOWN
2 - MARINA - PACIFIC HEIGHTS
3 - PARK PRESIDIO (RICHMOND)
4 - WESTERN ADDITION
5 - DOWNTOWN
6 - SOUTH OF MARKET

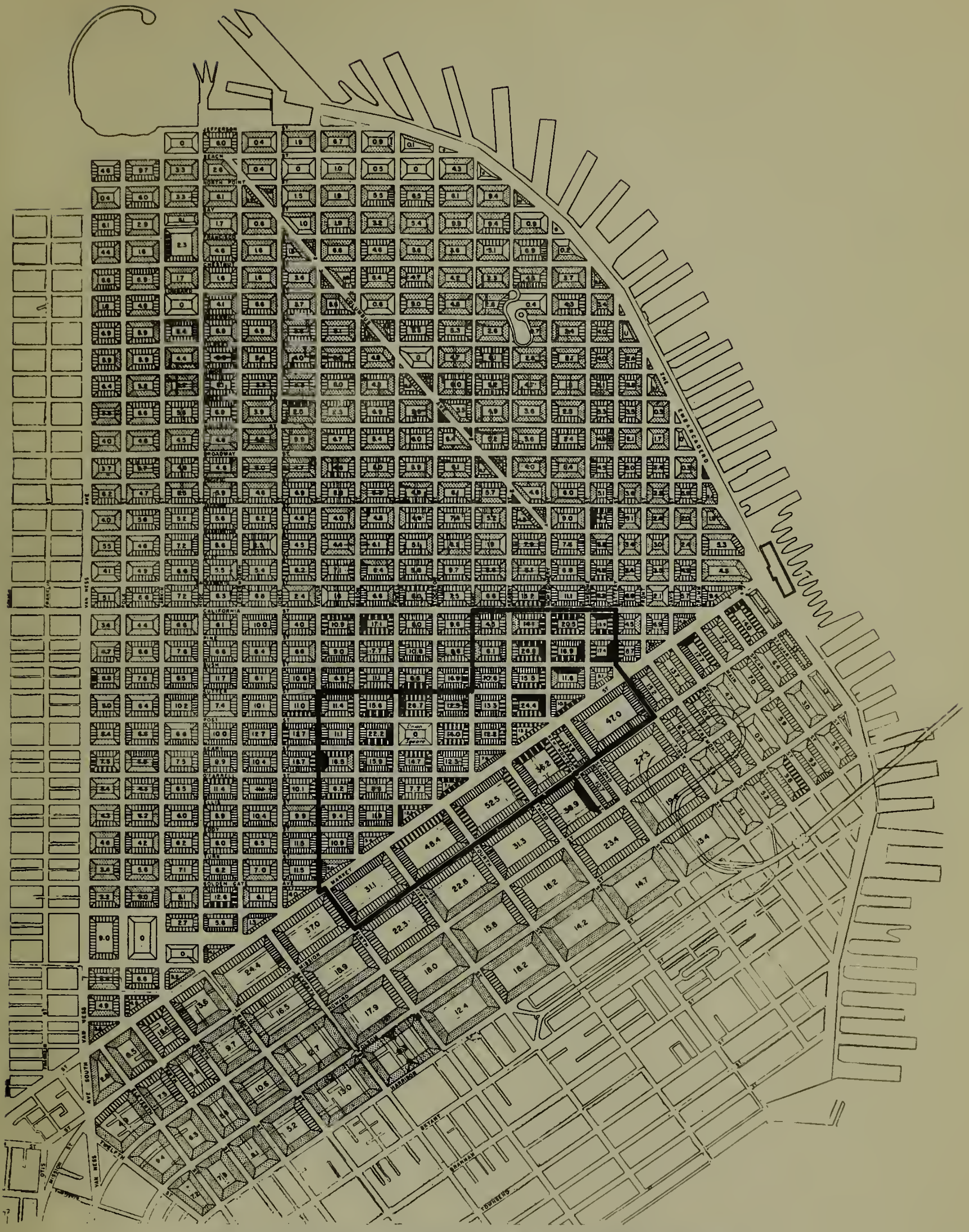
▮ = 5,000 PERSONS (1940)

◔ BLACK AREA INDICATES PROPORTION OF VACANT LAND.

7 - MISSION
8 - BUENA VISTA
9 - SUNSET - PARKSIDE - WEST PORTAL
10 - NOE - GLEN PARK - OCEAN AVE
11 - VISITACION - EXCELSIOR
12 - POTRERO - BAY VIEW

SOURCE: 1940 U.S. CENSUS AND 1944 C.P.C. LAND USE REPORT
STUDY AREAS ARE COMBINATIONS OF U.S. CENSUS TRACTS

CIRCULATION STUDIES



BUILDING HEIGHTS AND FLOOR AREAS

AVERAGE HEIGHT (IN STORIES) OF BUILT-UP FRONTAGE	0	1 & 2	3 & 4	5 & 6	7 & 8	9-10 & 11	12 & OVER
	☐	▨	▥	▥	▥	▥	■
ACTUAL RANGE	0	1 to 2.49	2.50 to 4.49	4.50 to 6.49	6.50 to 8.49	8.50 to 11.49	11.50 & OVER

FIGURES INDICATE APPROXIMATE ACREAGE OF FLOOR SPACE IN EACH BLOCK

▬ CENTRAL BUSINESS DISTRICT AREAS: TOTAL FLOOR SPACE = 730 ACRES. GROUND FLOOR SPACE = 120 ACRES. TOTAL LAND AREA (EXCLUDING STREETS) = 131 ACRES

TYPICAL BLOCK AREAS (NET): NORTH OF MARKET ST. 2.5 ACRES. SOUTH OF MARKET ST 9.0 ACRES

SOURCE: SANBORN MAPS

SAN FRANCISCO CITY PLANNING COMMISSION